

# DISTRIBUTION AGE

A CHILTON  PUBLICATION

NOVEMBER 1956



# POWER of a giant

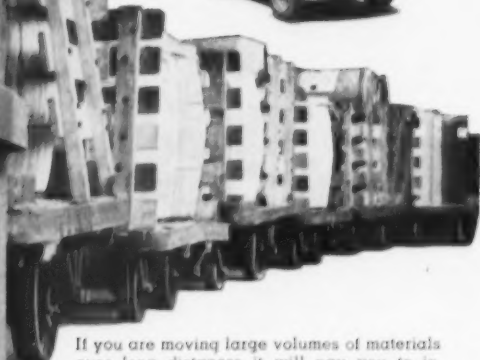
... but a PYGMY in size!

## MERCURY "BANTY"

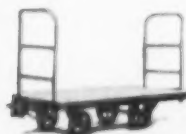
Model 460, 4-Wheel Gas Tractor

With a turning radius of only  $62\frac{1}{2}$ " and overall dimensions of  $78\frac{1}{4}$ "x $41$ "x $56\frac{1}{2}$ ", the MERCURY "Banty" is the most versatile . . . maneuverable . . . and dependable tractor made. Typical of the important economies possible with this unusual machine is the experience of one large company that moves over 4,000,000 lbs. per day with a "Banty" and train of trailers at a cost of less than 6c per ton.

Model 460 "Banty" is available in two models for regular or LPG operation—Standard 2400 lbs. or Heavy Duty 3000 lbs. D.B.P. Request Bulletins T-101 and T-102.



If you are moving large volumes of materials over long distances it will pay you to investigate the handling economies of the MERCURY "Banty" and the "Trackless Train" system.



MERCURY A-310 TRAILER  
Burden carrier of the "Trackless Train"

MERCURY  
MANUFACTURING COMPANY  
4104 S. Halsted St., Chicago 9, Ill.

# MERCURY

FORK TRUCKS · TRACTORS · TRAILERS

Circle No. 101 on Card, Facing Page 55, for more information

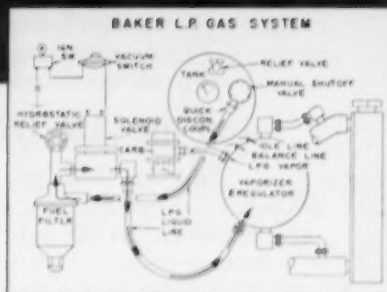


**BAKER**  
*offers*  
**LP gas**  
*fork trucks*  
**in 2000 to**  
**7000 lb.**  
*capacities*



The complete Baker line includes the BAKER LP gas fork trucks for those desiring the cost savings, cleaner operation, and other advantages provided by liquefied petroleum gas.

The Baker LP gas truck is powered by an engine specially designed for LP gas, not just a conversion unit. The special LP engine is provided with high compression head for maximum efficiency. Among the features are a special cold manifold and hot thermostat for cooler operation. Stellite-faced exhaust valves and solid Stellite inserts assure greater dependability and longer life. Complete vaporization and more efficient combustion mean lower oil consumption, less down time and reduced maintenance costs due to minimum cylinder wear. Fuel tank conveniently located behind the driver can be removed and full tank installed in less than a minute.



Arrows trace the flow of LP gas from the tank through the filter to the vaporizer and regulator before it enters the engine. The hydrostatic relief valve opens the system before dangerous pressure is reached in event of high ambient temperature changes. Automatic fuel shut-off is provided by solenoid valve and vacuum switches when engine stops. For maximum efficiency, the vaporizer preheats the LP gas before it passes to the regulator and the regulator reduces the pressure before the gas enters the carburetor.

*Write for information.*

**Baker**

handling equipment

**THE BAKER-RAULANG COMPANY**

1216 WEST 80th STREET • CLEVELAND 2, OHIO

A subsidiary of Otis Elevator Company

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604A



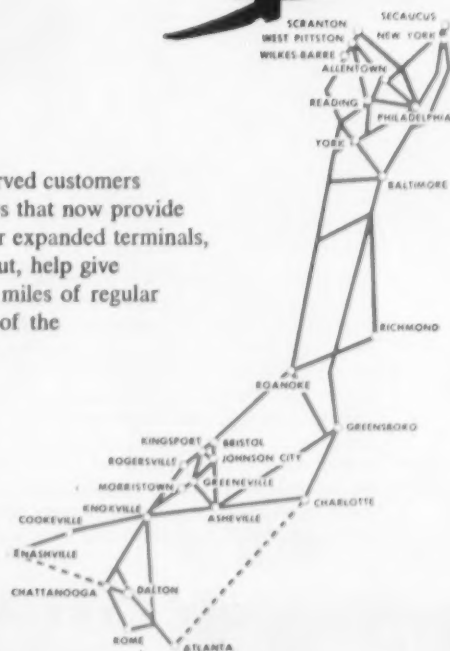
Over the past several years, we have spent more than \$6,400,000 to improve our facilities for handling your LTL freight. The question: which one of these new service features would you say is most important?

- ☐ Drag-Line Materials Handling System
- ☐ Radio Dispatch
- ☐ Turbodiesel Tractors
- ☐ Climatized and Open-top Trailers
- ☐ Enlarged Terminal Facilities
- ☐ Volume Van Trailers
- ☐ 24-Hour Communications

### ... And the ANSWER!

They're *all* important—but delighted, faster-served customers tell us that Number One is our enlarged terminal facilities that now provide super-efficient LTL service with Less Time Loss! New or expanded terminals, with the most modern equipment and methods throughout, help give your shipment top-priority service over our 6,000-plus miles of regular routes connecting the industrial and commercial areas of the South and the East.

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NOVEMBER, 1956

# DISTRIBUTION AGE

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# ONLY AMERICAN AIRFREIGHT OFFERS



**Airfreight costs less than you think.** A typical 100 lb. airfreight shipment costs only \$7.50 from New York to Chicago—\$18.80 from Chicago to San Francisco.

***Marketing men who use airfreight to avoid shipping delays specify American Airfreight for these reasons:***

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Only American offers you the extra speed of direct one-carrier service to all ten leading retail markets...more than two-thirds of the top thirty...all twenty-three leading industrial areas, in the United States.

## CAPACITY

American has space for your shipment where and when it's needed most. A combined daily lift potential of over a half million pounds gives American the greatest cargo capacity of any airline.



# MARKETING MEN ALL THESE BENEFITS



## FREQUENCY

Shipments get faster forwarding...spend less time in terminals with American's greater frequency of schedules. Over 1000 departures daily offer more service to more cities than any other air carrier.

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# **AMERICAN AIRLINES AIRFREIGHT**

—carries more cargo than any other airline in the world

# BARRETT MODEL HX is different

Model HX hydraulic hand pallet truck has many outstanding

**1 HYDRAULIC PUMP AND RAM...** a self-contained package unit. Remove retainer plates; complete hydraulic unit slips down and out of head easily.

**2 OVERLOAD VALVE...** factory-sealed, by-pass valve automatically opens when beyond safe overload capacity. Prevents truck failure and costly repairs.

**3 FLYING SAUCERS...** crawler-type, angular mounted entry wheels at end of forks allow truck to crawl up and onto bottom board of double-faced pallets. Prevent forks from pushing pallet away while entering.

**4 FULL, 4½" LIFT—9 strokes (full, 4" lift—8 strokes).**

**5 ALL-WELDED, ribbed design for light weight and exceptional strength.**

**6 SPRING-CONTROLLED FOOT TREADLE...** up out of way when not in use. Turns with steering handle. Increases necessary clearance for narrow aisle operation.

**7 TWIN LOWERING TREADLES** one on each side for quick operation.

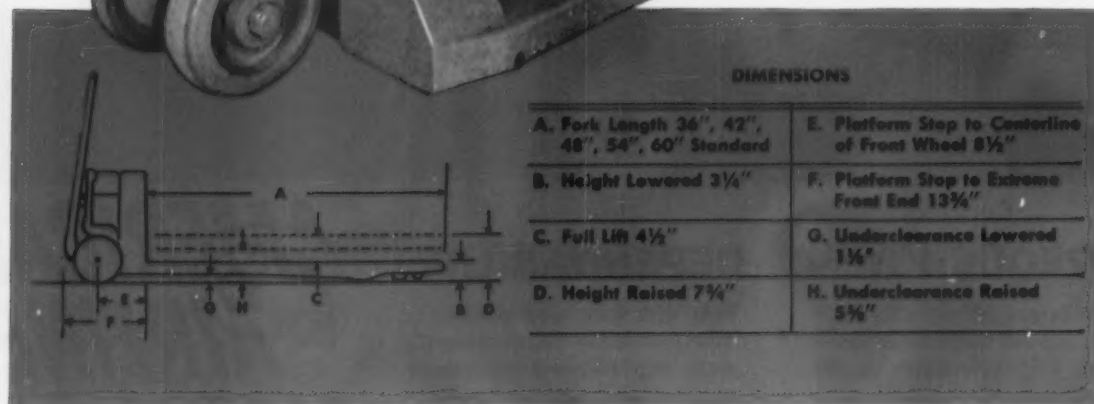
**8 NEEDLE-TYPE LOWERING VALVE**—adjustable for perfect control.

**9 SHORT OVER-ALL LENGTH—13¾" front end length plus pallet length.** For easy operation in confined areas.

**10 TRUCK WEIGHT...** Under 200 pounds (with 48" forks).

**11 CAPACITY...** 2000 pounds.

MODEL HX HYDRAULIC HAND PALLET TRUCK.



# from any pallet truck you ever used

## features to satisfy demands

**BARRETT built this truck  
extra light, extra strong  
with all the features  
operators have asked for**

Illustrated are only 3 of the features that make Barrett Model HX the most wanted hydraulic, hand-operated pallet truck on today's market.

Take the new, revolutionary, flying saucer entry device. Design utilizes principle of inclined plane and gives effect of 3 added inches of roller diameter to ease entry of fork into double-faced pallet.

Convenient location of oil filler plug makes possible refilling of hydraulic unit from exterior of truck. Remove plug; use ordinary oil can to refill. No dismantling necessary.

Ball bearing, rubber-tired front wheels; Timken bearings in aluminum rear wheels (other type floor saving wheels available). Surprisingly moderate in price.

**Write for Bulletin 5511. Other models available in 4000 and 6000 pound capacities.**

Construction of Model HX conforms in every way with the high Barrett standards of quality materials combined with skilled workmanship. This is your assurance of durable, long-life performance at low operating cost.

### BARRETT-CRAVENS COMPANY

644 Dundee Road, Northbrook, Illinois  
Representatives in All Principal Cities  
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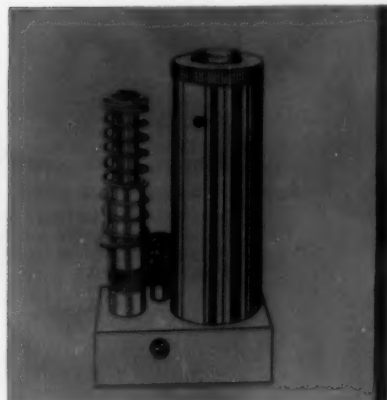
**Husky, all-welded, ribbed frame construction stands up under heavy load trucking.**



**Short wheel base for maneuverability and easy turning—even in congested areas.**

# BARRETT

**one man does more than 3 or 4...with a BARRETT**



**Ever see a time-saving feature like this hydraulic pump and ram package unit? LIFT it out in seconds for servicing.**



**Entry wheels crawl up and onto bottom board of pallet.**

**Flying saucer angular mounted entry wheels crawl right up and onto bottom board of double-faced pallets...no pushing empty pallets ahead of truck—an exclusive Barrett feature.**

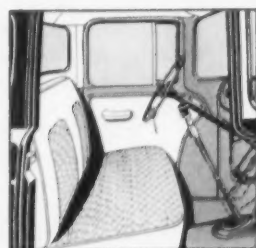


**Another Barrett exclusive—all-welded, ribbed design gives support in proper direction to the forces and stresses which a lift truck is subjected to during rugged use.**

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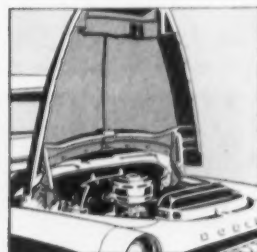


# FIRST NEW



## NEW COMFORT CABS

Industry's largest, for real stretch-out comfort. All-new seat design permits adjustment of back cushion and seat height, plus normal slide positioning.



## FULL-OPENING HOOD

Exclusive!—Can be raised full 90° for easiest, fastest engine servicing, half-way for routine oil and water checks.



Door-to-door delivery chassis



# SHOWING

# DODGE

## *PowerGiants*

- NEW giant-power V-8 engines! • NEW push-button driving!
- NEW higher load capacities! • NEW Forward Look Styling!

Get set to profit from a great *new* kind of truck—with *more* V-8 power and *more* payload capacity—with *more* eager-to-go snap than any other make on the road!

From 204-hp. pick-ups to 232-hp. tandems, today's new low-priced V-8 Dodge *Power Giants* deliver more truck per dollar—and more profitable payloads—in every weight class, 4,250 lbs. G.V.W. to 65,000 lbs. G.C.W.

New short-stroke Chrysler-engineered V-8's—with exclusive Power-Dome combustion—give you more miles per gallon, full power on *regular* gas. Increased power in famous, dependable Dodge 6's, too.

Push-button automatic transmission is still another great plus you get only in new Dodge *Power Giants*.<sup>\*</sup> First in any truck! Simple, sure, trouble-free. Just push a button, shifting is automatic.

Test-drive a Power Giant—V-8 or 6—soon! Get your Dodge dealer's deal *before* you decide on your new truck.

<sup>\*</sup>Available on low-tonnage and forward-control models.

## DODGE TRUCKS

WITH THE FORWARD LOOK



Panel models



Tractor models up to 65,000 lbs. G.C.W.



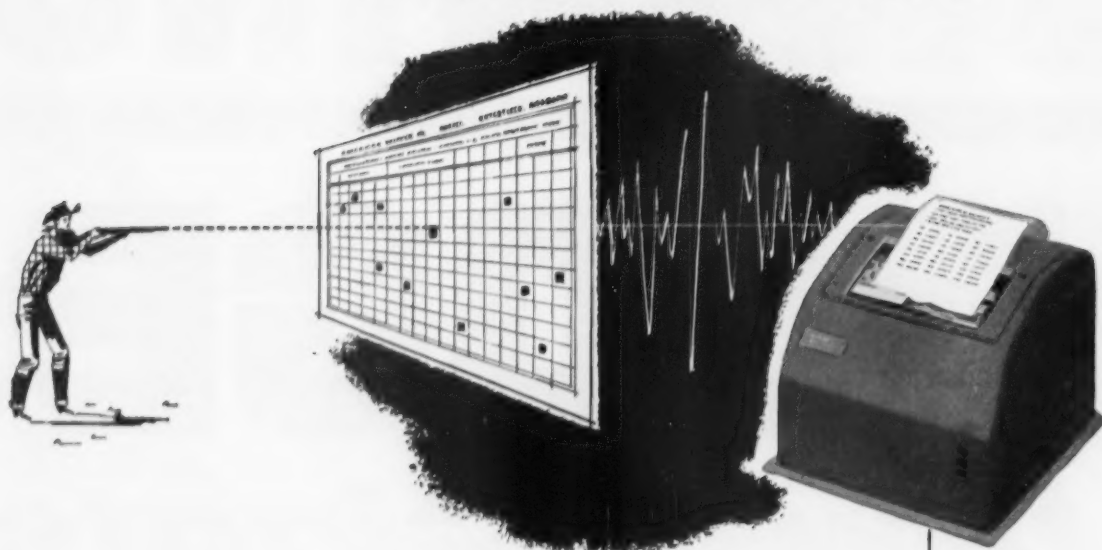
Cab and Chassis models



4 pick-up models up to 8,800 lbs. G.V.W.

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*shipments aimed via*  
**UNION PACIFIC...**

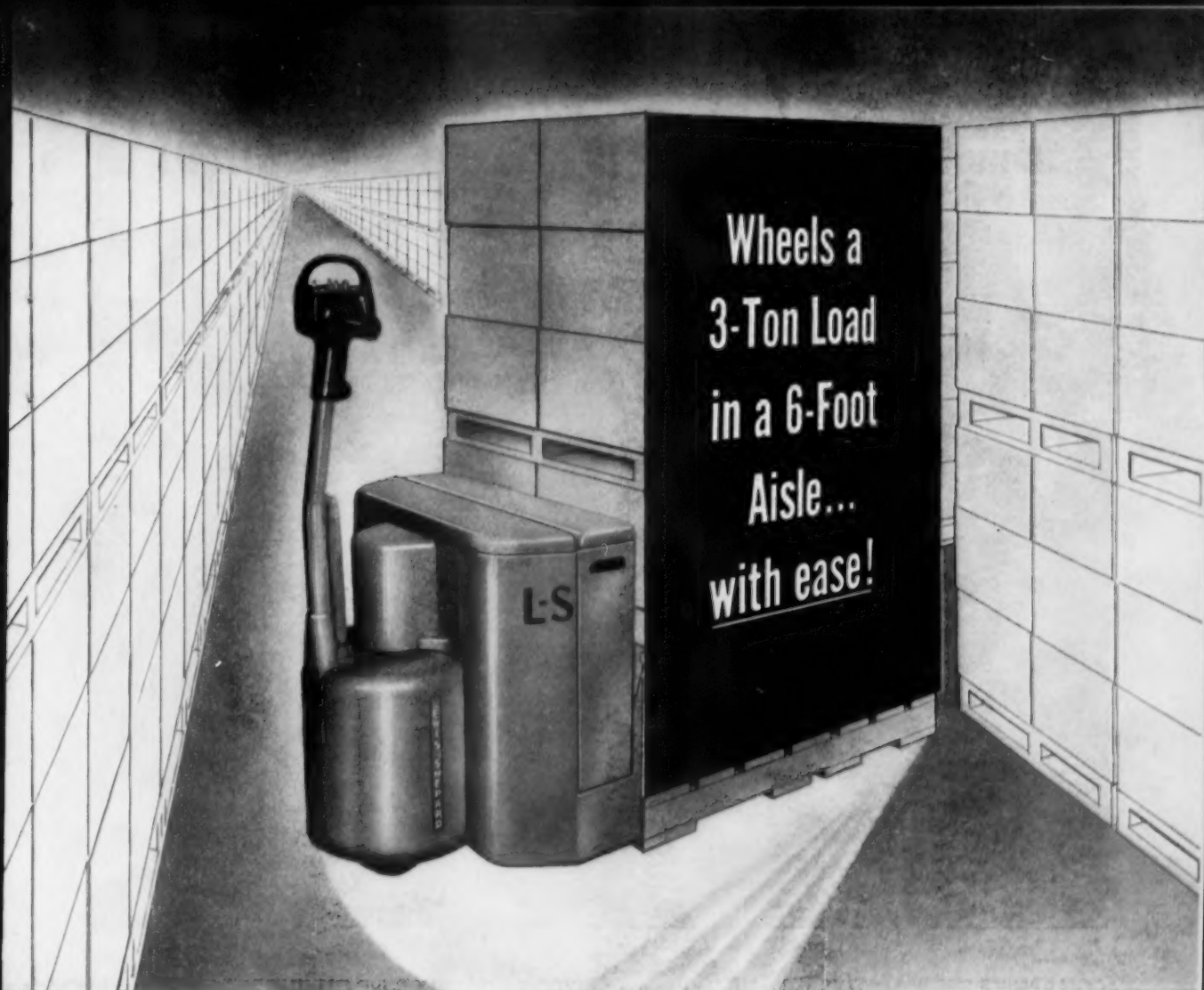


*can be targeted in all U.P. traffic  
offices throughout the United States  
and Toronto, Canada*

**Y**ou trigger a system of electronic reporting when you ship on Union Pacific Railroad. Hour by hour the shipments are watched, tallied in trains, kept under our eyes; not just along our lines, but in all of our offices across the nation.

Whenever you ship via U.P. to or through the West, this electronic communications system records and expedites your freight.

*so... be specific*  
*ship* **Union Pacific Railroad**  
*Omaha 2, Nebraska*



## All-New L-S JACKLIFT Electric "Walkie"

Now you can get all the advantages of 'big-truck' power and performance . . . *plus* easy, accurate maneuverability in narrow areas. The *all-new* L-S JackLift "Walkie" is extra rugged. Heavy-duty gear drive low-lifts 6000 lb. loads. And the new, compact design lets you handle 48" long pallet and skid loads in aisles less than 6 feet wide!

With handle in *vertical* position, the JackLift "Electric" can work in and out of tight quarters. All controls . . . speed,

direction, lift, braking . . . are located in handle-head for greatest convenience and efficiency.

*Safety* is an important feature, too. Operator's hands are protected at all times. Positive control means smoother starts and stops . . . careful spotting and inching for fragile loads.

Get the full facts on this and other Lewis-Shepard MASTER trucks — the most *complete* line of materials handling trucks found anywhere. Send for catalog — mail coupon below.

### HERE'S PROOF OF L-S JACKLIFT ELECTRIC DEPENDABILITY

57.3% of the orders for JackLift Electrics received in the past 4 years were repeat orders from satisfied users already owning JackLift Electrics. A few are as follows:

Paper Mfr.	44 L-S in use	reordered 5
Chain Grocer	99 L-S in use	reordered 2
Chemical Mfr.	46 L-S in use	reordered 2
Amusement Goods Mfr.	126 L-S in use	reordered 2
Soft Drink Bottler	41 L-S in use	reordered 3
Food Canner	72 L-S in use	reordered 2



## LEWIS-SHEPARD

1611 Walnut St., Watertown 72, Mass.

Please send ☐ L-S Master Line Catalog  
☐ L-S JackLift Electric Catalog #34-1

Name \_\_\_\_\_ Title \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

Circle No. 105 on Card, Facing Page 55, for more information

## New York to Chicago—\$15 a booth! Ship UNITED!



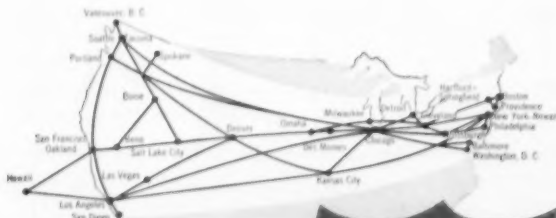
**COLLAPSIBLE SHOW BOOTHS** and sales displays can be used in one city today and in another city tomorrow. Just ship them overnight on United's 300-mph DC-6A "Big Lift" Cargoliners. Cost for 200-lb. shipment, New York to Chicago—\$15\*.

### Examples of United's low Air Freight rates

	per 100 pounds*
CHICAGO to CLEVELAND . . . . .	\$4.78
NEW YORK to DETROIT . . . . .	\$5.90
DENVER to OMAHA . . . . .	\$6.42
SEATTLE to LOS ANGELES . . . . .	\$9.80
PHILADELPHIA to PORTLAND . . . . .	\$24.15
SAN FRANCISCO to BOSTON . . . . .	\$27.00

\*These are the rates for many commodities. They are often lower for larger shipments. Rates shown are for information only, are subject to change, and do not include the 3% federal tax on domestic shipments.

**YOU'RE DOUBLY SURE ON UNITED**—Space for your shipment on the flight you want is guaranteed by Reserved Air Freight. . . . Weather-mapping radar on United's DC-6As helps assure that your shipment will arrive on schedule. . . . There's assurance, too, in United's round-the-clock cargo schedules and in United's kid glove cargo handling procedures.



**SHIP FAST...SHIP SURE...SHIP**



For service, information, or free Air Freight booklet, call the nearest United Air Lines Representative or write Cargo Sales Division, United Air Lines, 36 South Wabash Avenue, Chicago 3, Illinois.



# Chuting The NEWS

## The Cover



These 3 x 6-ft baskets are used in an overhead conveyor system for transporting parts from department to department at the El Segundo Div. of Douglas Aircraft Co. The aerial conveyor supplements several other intra-plant handling systems, including trailer-trains, wheeled shelf-trucks, fork trucks and conveyor lines. For the complete story on Douglas' parts handling program, see Page 40.

## Associated Traffic Clubs of America Observes National Transportation Week at Annual Meeting

The Associated Traffic Clubs of America at its 33rd Annual Meeting in Miami Beach, Oct. 24-25, paid special tribute to National Transportation Week. National Transportation Week, which was originated by the ATC, was discussed in an address by T. C. Burwell, chairman of the ATC Board of Directors.

F. L. O'Neill, Minnesota Mining & Mfg. Co., was elected president of the group. He succeeds L. A. Pomeroy, Jr., National Malleable & Steel Castings Co., who became chairman of the Board. L. E. Gallaspie, of Reynolds Metal Co., was elected executive vice president.

New Regional vice presidents elected included A. H. Laney, Laney-Duke Storage Co., South Atlantic Region, and Eugene Landis, International Minerals & Chemical Co., East North Central Region. Raymond P. DeGroote, Luckenbach Steamship Co., was re-elected secretary, and R. Paul Yellen, Norfolk & Western Railway Co., was re-elected treasurer and assistant secretary.

The opening day was devoted to the traditional Council of Club Presidents, followed by the Traffic Club Clinic. F. L. O'Neill, executive vice president, presided at both sessions.

The second day was given to reports of officers and committee chairmen. G. M. Harrison, of Brotherhood of Railway Clerks, spoke on "The Human Element in Transportation" at Thursday's luncheon. Senator George A. Smathers, of Florida, addressed the Annual Banquet.

Dallas, Tex., was chosen as the site of the next ATC Convention.

(Please Turn Page)

*The 1956 Annual Meeting of the National Paperboard Association will be held at the Waldorf-Astoria Hotel, New York, Nov. 13-14. T. N. Bland, Fibreboard Products, Inc., San Francisco, Calif., president of the Association, will preside.*

## Shippers Advisory Boards Study Transportation Outlook

The National Association of Shippers Advisory Boards, meeting in Los Angeles Oct. 16-18, studied the national transportation outlook for 1957.

T. Chase Burwell, of the A. E. Staley Mfg. Co., was elected president. Other officers elected were: R. E. Covey, American Sugar Refining Co., first vice president; L. A. Schwartz, New Orleans Traffic & Transportation Bureau, second vice president; W. C. Cole, Georgia-Pacific Corp., secretary.

Speakers included Owen Clarke, a member of the ICC and William T. Faricy and Richard G. May, president and vice president-operations and maintenance, respectively, of the AAR.

John W. Witherspoon, president of the NASAB and assistant general traffic manager of the United States Rubber Co. in Los Angeles, presided over the meeting.

## Warehousing and Distribution AMA Workshop Seminar Theme

Workshop Seminar No. 409, on Warehousing and Distribution, will be conducted Nov. 7-9 at the Sheraton - Astor Hotel, in New York, by the American Management Association. Topics to be discussed include an analysis of different types of warehousing, reducing warehousing and distribution costs, interdepartmental coordination, and comparisons between old and new warehousing and distribution methods.

*Some 1,000 executives from the shipping, food manufacturing, and railroad industries attended a one-day seminar last month at the Calumet Industrial District, in Chicago. Included on the program was a demonstration of the mechanized-unitized-palletized system of warehousing.*

## Chuting the News . . .

(Continued from Preceding Page)

### Transportation Equipment Sales up 51 Per Cent Over 1948 Figure, Bureau of Census Reports

Sales of transportation equipment (except automotive) distributors totaled \$376 million during 1954, up 51 per cent over 1948, and almost six times the corresponding dollar volume in prewar 1939, according to preliminary results of the 1954 Census of Business conducted by the Bureau of the Census, U. S. Department of Commerce.

For Census purposes, transportation equipment distributors are subdivided into four groups: Aircraft, aeronautical equipment, part distributors; marine machinery, equipment distributors; railroad equipment distributors, and other equipment distributors.

At the end of 1954 there were 1004 establishments as described above in continental United States primarily engaged in this busi-

ness. Sales for the year totaled \$376 million or an annual average of \$375,000 per establishment.

There were 9676 paid employees in mid-November. Annual payroll amounted to \$47 million for the year, or 12 per cent of sales. Employment was up 64 per cent over 1948 and was nearly four times the 1939 monthly average. In addition to the 9676 paid employees, 477 proprietor-owners of unincorporated businesses were actively engaged in the trade, a total of 10,153 persons. Of this number 1328 were engaged in selling.

Operating expenses, including payroll but not withdrawals for compensation of proprietor-owners of unincorporated businesses nor cost of goods sold, amounted in 1954 to almost \$90 million or 2.4 per cent of sales.

### U. S. Waterborne Commerce Hits Record Billion Tons

Waterborne commerce of the United States reached a new all-time record during 1955, exceeding a billion tons for the first time in history, the Department of the Army announced last month.

According to statistics released by the Army Corps of Engineers, the total for 1955 was 1,016,000,000 tons as compared with 867,600,000 tons in 1954, and was ten per cent greater than the 924,100,000 tons in 1951, the previous record year.

Leading individual coastal ports include the following, with 1955 totals in millions of tons:

Boston	19,100,000
New York	148,800,000
Philadelphia	48,900,000
Baltimore	45,800,000
Norfolk	35,900,000
Mobile	15,100,000
New Orleans	47,100,000
Beaumont	22,900,000
Houston	47,000,000
Corpus Christi	15,500,000
Los Angeles	19,300,000
Richmond, Calif.	14,000,000
Portland	12,600,000
Seattle	12,500,000

### Upward Trend Reported in Paper, Paperboard Production

The upward trend in paper and paperboard production in the United States during the 18 months ending June 30, 1956, is described as phenomenal for a peacetime period by the quarterly Pulp, Paper and Board Industry Report issued recently by the Forest Products Division of the Business and Defense Services Administration, U. S. Department of Commerce.

A review of the period included in the report shows that total output of the two commodities in 1955 approximated 30 million tons, a figure 12.3 per cent higher than the 1954 total. The first six months of 1956 saw paper and board production reaching 16.1 million tons, a gain of 9.2 per cent over output in the comparable period of 1955, while the average of all manufacturing industries gained 4.4 per cent.

### Rodeo Champion



Vern Carlson is shown with the truck he drove to the National Truck and Full Trailer Championship this year. He drives for Westland Oil Co., of Williston, N. D., and won the national title, competing against 32 drivers from Minnesota, North and South Dakota and Montana in the national rodeo event held at Bozeman, Mont., under sponsorship of the Montana Motor Transport Association.

### Fibre Box Association Elects F. W. Oldenburg President

Fred W. Oldenburg, of American Box Board Co., was elected president of the Fibre Box Association at that group's Annual Meeting in New York last month. Philip F. Paul, of Flinkote Co., was named vice president.



New directors elected included: D. H. Brewer, Container Corp. of America; R. M. Briggs, Menasha Wooden Ware Corp.; J. Gidwitz, Lanzit Corrugated Box Co.; R. M. Goldstein, Mivison-Weiskopf Co.; J. T. Harrison, Union Bag-Camp Paper Co.; P. A. Schilling, Waldorf Paper Products Co.; and F. E. Smyser, Ottawa River Paper Co.

A summary of the quarterly returns of 58 large freight forwarders shows that for the first six months of 1956 the net income after income taxes amounted to \$1,996,894, as compared with \$1,622,862 in the same period of 1955. This represents an increase of 23 per cent.

## Freight Traffic Association Convention



Five members of the National Freight Traffic Association shown surveying the Boca Raton Hotel and Club, in Florida, in preparation for their association's convention which opened Oct. 26. Shown are (l. to r.) Francis J. Burke, district traffic manager, The Anaconda Co.; William E. Turner, assistant to the vice president, The Chesapeake & Ohio Railroad Co.; E. J. Dean, assistant vice president, The Erie Railroad Co.; H. H. Meyer, eastern traffic manager, The Chicago & Illinois Midland Railway Co., and John P. Derham, Jr., vice president, The Seaboard Air Line Railroad.

## Club Briefs

R. A. Campbell, of Pan-Atlantic Steamship Corp., spoke on piggy-boast operations at last month's meeting of the Philadelphia Div., SIPMHE.

At its 1956 Industrial Dinner on Oct. 18, the Transportation Club of Toronto heard A. P. Craig, of Trans-Canada Pipe Lines, Ltd., speak on "Natural Gas for Canada."

The Women's Traffic Club of Detroit will meet at the Van Dyke Club, in Detroit, on Nov. 8. The Annual Football Party at Ann Arbor, Mich., will be three days later.

The Board of Governors of the Metropolitan Traffic Assn. of New York has revised the constitution and by-laws, giving the Board power to supercede certain provisions in Articles 3 and 4.

William C. Watson, of Cheesebrough-Ponds, Inc., spoke on "Financial Management Looks at Materials Handling" at the October meeting of the New York Chapter, AMHS.

James Willett, of Shell Oil Co., directed the October meeting of the Traffic Club of Houston, Tex.

Southern California Chapter, SIPMHE, last month installed the following officers: H. A. Kilmer, president; J. D. Nunn, vice president; N. W. Jones, vice president-handling; H. Lamar, vice president-packaging; N. R. Christensen, secretary, and H. L. Waters, treasurer.

West Side Night was observed Oct. 18 by the Central Valley Transportation Club, of Modesto, Calif.

Officers elected at last month's Annual Meeting of the Iowa Industrial

Traffic League were: Glenn E. Minear, Maytag Co., president; Paul E. Gans, Deere & Co., vice president; Harold Mesereau, Fisher Governor Co., secretary-treasurer, and H. F. Ewolt, Cedar Rapids C of C, chairman of the Board.

Joseph Sikora, freight traffic manager of the DL&W Railroad, spoke at the Oct. 22 meeting of Newark (N. J.) Chapter No. 39, Delta Nu Alpha.

R. H. Davies, vice president, Clark Equipment Co., was guest speaker at last month's meeting of the Philadelphia Chapter, AMHS.

Rear Admiral Walter C. Ford, deputy maritime administrator, spoke at the Oct. 17 meeting of the Propeller Club of the Port of New Orleans.

The Southwestern Chapter, SIPMHE, elected the following officers at last month's meeting: K. P. Dowell, president; Lennard Blanton, executive vice president; M. W. Brown, vice president-packaging; Peter Tishlias, vice president-handling; Grant Bunnell, vice president-traffic; J. C. Shirley, secretary, and Thomas Dixon, treasurer.

The Annual Dinner of the New Jersey Industrial Traffic League was conducted in Newark on Oct. 18.

On Oct. 5 a meeting was conducted in Charlotte, N. C., for the organization of a Carolina Chapter of the Association of ICC Practitioners. E. B. Ussery was elected chairman.

The Traffic Club of New York celebrated its 50th Anniversary Oct. 13 with a musical variety show.

## Package Designers Council Names Blod President

Francis E. Blod, head of Design Associates, Ltd., New York, was named president of the Package Designers Council, last month at the Annual Meeting of the Council. Blod, who has been active in the field of industrial design for the past 20 years, succeeds Frank Gianninoto.

New executive vice president is Karl Fink, also of New York, former PDC secretary. Other new officers are Gerald Stahl, secretary and Robert E. Van Rosen, treasurer.

It was announced that the council has opened new executive offices at 271 Madison Ave., New York. Glenn Mather will serve as executive secretary.

—DA—

*The Northeastern Motor Carrier Claim Conference, meeting in Philadelphia late in September, voted to invite representatives of carrier management and shipper management to its Spring Meeting. At that time the guests will be asked "what is expected of claim agents?"*

—DA—

## Cooperative Shippers Unite

C. B. Culpepper, of the Atlanta Freight Bureau, Atlanta, Ga., was named president of the National Conference of Non-Profit Shipping Associations at that group's organization meeting in Chicago last month. The Association includes manufacturers and retailers who ship cooperatively.

—DA—

*Justus T. Vollbrecht, president of Energy Control Corp., was elected president of the Instrument Society of America during its 11th Annual Instrument-Automation Conference and Exhibit in New York last month. Vollbrecht will assume office Nov. 1, for a one-year term. He succeeds Robert T. Sheen, president of the Milton Roy Co., Philadelphia.*

(Please Turn to Page 17)

Buffalo, in the heart of the world-famous Niagara Region and at the gateway to Canada, presents a panorama of booming industrial enterprise and achievement . . . provides a scene of American industry and commerce at its best.



DC offers Buffalo industry. The only direct service to West Coast cities.

Daily direct service to Chicago, Denver, Colorado Springs, Pueblo and Phoenix.

***The Only COAST-TO-COAST CARRIER***



# Chuting the News...

(Continued from Page 15)

## Small Shipments Traffic Group Re-elects Cabot President

The National Small Shipments Traffic Conference, meeting in Chicago late in September, re-elected Walter K. Cabot, of Johnson & Johnson, as president. Other officers re-elected were: H. E. Chapman, S. S. Kresge Co., first vice president; R. J. Tyler, Tube Turns, second vice president; Harry F. Gillis, Washington attorney, executive vice president, and R. A. Whitty, Belknap Hardware & Mfg. Co., chairman of the Executive Committee.

James W. Lee, Bendix Aviation Corp., was named secretary, and Archer G. Milligan, The Sperry & Hutchinson Co., treasurer. The Conference went on record in opposition to the railroads' proposed \$3 minimum on lcl shipments.

—DA—

## Midwest Shipper-Carrier Group Hears Report on Seaway

"The Great Lakes will become the fourth coast of the United States when the St. Lawrence seaway is completed in early 1959. The Great Lakes will join the Atlantic, Gulf, and Pacific coasts as one of the important import, export, centers of the world." These and other effects the St. Lawrence Seaway will have on transportation in the Midwest were outlined by George H. Weiss, chairman, Great Lakes Overseas Freight Conference in an address before the recent Fourth Annual Meeting of the Middlewest Shipper-Motor Carrier Conference, in St. Louis.

Henry Archambo, Minneapolis Traffic Association, was elected president for the coming year. Gail H. Crawford, Ringsby Truck Lines, Inc., was elected vice president. Grant L. Moran, Western Auto Supply Co., was elected Secretary and Euell J. Rubert, Powell Bros. Truck Lines, Inc., treasurer.

## Defense Transportation Needs Discussed at NDTA Meeting

"National Transportation Needs in Emergency Mobilization" was the subject of a panel discussion at the 11th Annual National Defense Transportation Convention, in Salt Lake City, last month, James K. Knudsen, former ICC Commissioner and Defense Transport administrator, moderated the panel.

Members of the panel included: Dr. Ernest Williams, ODM consultant; Earl B. Smith, Department of Defense; Ira V. Packard, FCDA; ICC Commissioner Owen Clarke; C. J. Goodyear, commissioner of Transportation and Public Utilities, GSA; Ralph Alexander, director of Transportation for the Post Office Dept.; Col. Arthur Syran, International Cooperation Administration; Col. R. S. Henry, AAR; Chester C. Thompson, American Waterways Operators; John B. Hulse, Truck-Trailer Manufacturers; Arthur S. Genet, Greyhound Corp.; Giles Morrow, Freight Forwarders Institute, and R. C. Edson, American National Red Cross.

## Packaging Assignment



Vern I. McCarthy, Jr., (right) vice president of Vulcan Containers, Inc., of Bellwood, Ill., is shown being sworn in for his six months assignment with the Business and Defense Services Administration by Charles F. Honeywell, administrator of the BDSA. McCarthy will represent the entire American packaging and container industry in his capacity as deputy director of the Containers and Packaging Division, BDSA.

## News Briefs

T. Leo Haden, consultant in the office of the chairman of the ICC, retired effective Oct. 12.

Speeded up piggy-back service was announced Oct. 16 by the Norfolk & Western and Pennsylvania Railroads with inauguration of a daily 24-hour train between southwestern Virginia and New York.

The Bessemer & Lake Erie Railroad on Oct. 1 announced piggy-back service between the Pittsburgh and Butler, Pa., area and St. Louis, Louisville, Chicago, and New York.

R. C. Waehner, General Manager, Distribution Div., Lever Brothers Co., spoke last month in Kansas City at the Midwest Transportation Institute of the Transportation Assn. of America.

Towmotor Corp., Cleveland, O., has announced acquisition of the Gerlinger Carrier Co., Dallas, Ore. Gerlinger manufactures heavy-duty fork trucks and front-loading straddle carriers.

The Second Annual Conference on Selling Motor Freight Service will be held at Syracuse University, Syracuse, N. Y., Nov. 5 and 6.

The ICC's General Rules of Practice adopted July 31, 1942, and as amended, have been published in the Federal Register for Wednesday, Sept. 26, 1956, including all amendments which will be in effect on Oct. 1.

North Atlantic air freight operations of KLM Royal Dutch Airlines doubled in capacity when the winter schedule of the world air network was inaugurated Oct. 7.

By Oct. 1, 1956, the ICC Bureau of Motor Carriers had its full complement of 100 Safety Inspectors in the field. Checks will be made on motor carrier terminals and equipment. All carriers are warned that they must comply with applicable ICC safety regulations to avoid violations.

The ICC has released a report prepared by the staff of the Motor Carrier Safety Section of the Bureau of Motor Carriers entitled "Analysis of Defective Vehicle Accidents of Motor Carriers, 1952-1953." The report is issued as information, without consideration or adoption by the Commission and is not an official expression of the views of the ICC.

During 1954, manufacturers in the railroad and street car industry shipped products valued at \$496 million, a decrease of 32 per cent from 1947, according to preliminary results obtained from the 1954 Census of Manufactures conducted by the Bureau of Census, Department of Commerce. Average employment in this industry has dropped in half since 1947 (when the last Census of Manufactures was taken) to a total of 30.7 thousand employees in 1954.

# CLARKLIFT—



## ONE HYDRAULIC LEVER

### Directional Operation

- Lift load.....Move lever **Up**
- Lower load.....Move lever **Down**
- Neutral.....Self-centering
- Tilt forward.....Move lever **Forward**
- Tilt back.....Move lever **Back**

# *it almost operates itself . . .* *. . . with comfort and safety*

From the single lever control of the hydraulic system to the wide foam rubber seat, your driver works in comfort and safety. Smooth, powerful acceleration, reduced steering effort and torque multiplied brakes are just a few of the many refinements incorporated in this new Clarklift to increase driver efficiency.

## **Reduced steering effort**

Greatly improved weight distribution and large steer tires reduce steering effort when empty. Proper angle of steering wheel assures most effective leverage and comfort while maneuvering and stacking.

## **Excellent visibility**

The unique nested construction of the new safety roller upright provides more "see-through" visibility. Cylinder placement and wider spaced lift chains present a picture window in front of the operator for unobstructed visibility in front of the truck.

## **Positive upright control**

Precise control of the upright is afforded the operator with the new cushion valve, tilt lock valve, flow regulator and full-feathering main valve. Regulated lowering, elimination of sway and cushioning of sudden shocks make this the most controllable and safe upright available.

## **Greater riding comfort**

The longer wheelbase and large steer tires smooth out shocks and bumps. The longer wheelbase also permits the driver's seat to be farther forward toward the center of the truck, thus smoothing out the ride.



## **Adjustable Seat**

Foam rubber, extra wide and adjustable. This seat accommodates any size operator, in comfort, with ample leg room. Four inches fore and aft adjustment combined with the self-adjusting seat back assures proper support and reduced driver fatigue.



## **Clear Floorboard**

Look at the uncluttered floorboard. No clutch pedal or shift levers to worry about, and the wide brake pedal can be operated with either foot. Difference in accelerator and brake pedal height is only 1 inch, which greatly reduces leg movement.



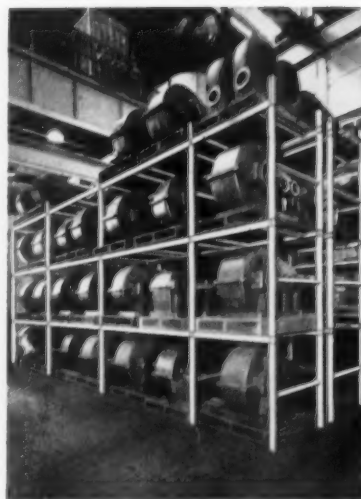
Industrial Truck Division  
**CLARK EQUIPMENT  
COMPANY**  
Battle Creek, Michigan

# BUY *"American"* FOR BETTER STACKING and most economical storage

Industry is buying more American Racks than ever before, because no other stationary or portable racks can match American Rack features. For cutting installation and materials handling costs, you can't beat American. Make us prove this fact! Write us today.

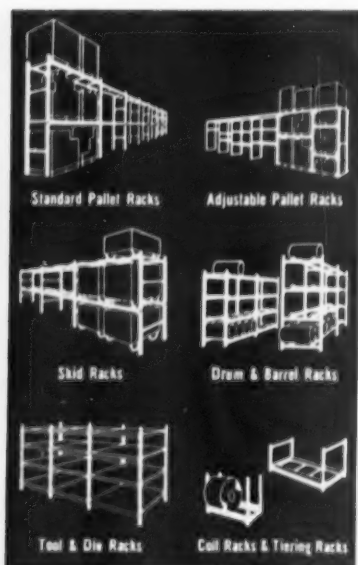


AN EXCLUSIVE  
AMERICAN FEATURE  
Patent No. 2,654,487



Here are two more examples of better stacking . . . American rack installations at the Link-Belt Co., Philadelphia, Pa. Picture on left shows adjustable rack equipped with roller conveyors for straight-through feeding to assembly line. Picture on right shows selective storage of bulky parts.

Send for plastic bound illustrative catalog!



## AMERICAN METAL PRODUCTS CO.



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STORAGE RACK DIVISION  
5959 Linsdale • Detroit 4, Michigan

amp PLANTS AND SUBSIDIARIES: (American Metal Products Co.—Detroit, Michigan—Union City, Tennessee) (AllianceWare, Inc.—Alliance, Ohio—Kilgore, Texas—Colton, California) (Borroughs Manufacturing Co.—Kalamazoo, Michigan) (General Spring Products, Ltd.—Kitchener, Ontario, Canada) (Tube Reducing Corp.—Wallington, New Jersey)

Manufacturers of quality products for automobiles, trucks, aircraft, offices, factories, warehouses, and homes.

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DISTRIBUTION AGE



## Men in the News

### Traffic

**Edwin S. Votey**—appointed traffic manager, Westinghouse Lamp Div., Bloomfield, N. J.

**Harold Des Jardin**—appointed traffic manager, Calif. Div., American National Foods, Inc.

**Norman S. Lowndes**—named assistant traffic manager, American Smelting and Refining Co., New York, N. Y.



**James F. Gibney**—promoted to manager Rate Div., General Traffic Dept., United States Rubber Co., New York, N. Y.

**Richard E. Spatz**—named manager Traffic Section and **Charles A. Cashion**, manager, Transportation Section, Traffic & Transportation Dept., Koppers Co., Inc., Pittsburgh, Pa.

**Ernest W. Sams**—appointed traffic manager, Fieldcrest Mills, Inc., Spray, N. C.

**Capt. Willard C. Johnson**, Supply Corps, U. S. Navy—assigned to Military Traffic Management Agency, Washington, D. C.



**Kenneth E. Ketzel**—appointed director of transportation, Consolidated Foods Corp., Chicago, Ill.

**Francis A. Bonner, Jr.**—new export manager, The A. J. Alsdorf Corp., Chicago, Ill.

**Leonard P. Cornwall**—appointed cargo sales manager, Pan American World Airways, Long Island City, N. Y.

### Transportation—Air

**Robert M. Malloney**—new Eastern regional manager and **O. L. Slay**—Midwestern regional manager, Slick Airways, Inc., Burbank, Calif.

**Edward L. Farrell, Jr.**—elected a vice president, Pan American-Grace Airways, New York, N. Y.

**M. J. van der Ploeg**—new deputy president and head of the Traffic and Sales Directorate, KLM Royal Dutch Airlines, The Hague, Holland. The sales function in the Traffic and Sales Directorate will be under the control of **J. C. van der Kloot**, vice president.

### —Highway

**Robert Brown**—promoted to Southern California sales manager, T.I.M.E. Incorporated, Lubbock, Tex.

**William F. Kirk**—named vice president of operations, New York Central Transport., New York, N. Y.

**T. D. Taylor**—appointed senior vice president, Consolidated Freightways, Inc., Portland, Ore.



**Joseph W. Watson**—promoted to general traffic manager, Motor Freight Express, Inc., York, Pa.

**Owen M. Collett**—appointed vice president, P-I-E's Tanker Div., Pacific Intermountain Express, Oakland, Calif.

### —Rail

**F. J. Conrad**—new vice president-traffic, Rock Island Lines, Chicago, Ill.

**T. E. Johnson**—promoted to assistant general superintendent of transportation, Baltimore and Ohio Railroad Co., Baltimore, Md.

### —Water

**Louis C. Purdey**—appointed deputy director of commerce for Port and Industrial Development, Philadelphia, Pa.

### Materials Handling

**John V. Pearson**—named supervisor,

Tractor Equipment Advertising and Promotion and **Peter Lewis**—supervisor, Industrial Truck Sales Training, Hyster Co., Portland, Ore.

**George R. Brockway**—elected executive vice-president, Raymond Corp., Greene, N. Y.

**Frank G. Hough**—elected chairman, Board of Directors and **G. A. Gilbertson**—new president and chief operating officer, The Frank G. Hough Co., Libertyville, Ill.

**Marvin J. Gaut**—appointed manager, Electronic Div., Otis Elevator Co., Brooklyn, N. Y.

### Packing & Packaging

**Gordon S. Mustin**—appointed manager, Los Angeles Div., Container Laboratories, Los Angeles, Calif.

**Paul I. Rogers**—appointed consultant and technical advisor, Allen Hollander Co., Inc., New York, N. Y.

**Herbert D. Lamar**—new controller, Permacel Tape Corp., New Brunswick, N. J.

**Ralph C. Reinhart**—new director of manufacturing, Baker-Raulang Co., Cleveland, Ohio.



**Clarence E. Elsas**—elected president, Fulton Bag & Cotton Mills, New Orleans, La.

## Coming Events

Nov. 6-8—Fifth Canadian National Packaging Exposition, Canadian National Exhibition Grounds, Toronto, Ontario.

Nov. 7-9—Air Transportation Conference, Wright-Patterson Air Force Base, Ohio.

Nov. 7-9—Warehousing & Distribution Seminar, American Management Assn., Sheraton-Astor Hotel, New York.

Nov. 12-14—Grocery Mfrs. of America, Annual Meeting, Waldorf-Astoria Hotel, New York.

Nov. 13-14—National Paperboard Assn., Annual Meeting, Waldorf-Astoria Hotel, New York.

Nov. 15-16—NIT League Annual Meeting, Hotel Commodore, New York.

Nov. 15—Materials Handling Workshop Clinic, Congress Hotel, Chicago.

Dec. 4-6—National Freight Claim Committee, American Trucking Assns., Fall Meeting, Hotel Balmoral, Miami Beach, Fla.

Dec. 8-16—National Automobile Show (including truck makers), The Coliseum, New York.

Dec. 10-11—The Material Handling Institute, Inc. Annual Meeting, Biltmore Hotel, New York.

### 1957

Jan. 8-25—Ninth Institute of Industrial Transportation and Traffic Management, The American University, Washington, D. C.

Jan. 14-18—Society of Automotive Engineers, Annual Meeting, Sheraton-Cadillac and Statler Hotels, Detroit.

Jan. 15-17—Caster & Floor Truck Mfrs' Assn. Meeting, New Weston Hotel, New York.

Jan. 19-23—Truck-Trailer Mfrs' Assn., Annual Convention, Hotel Del Coronado, Coronado, Calif.

Jan. 23-24—Executive Committee, American Trucking Assns., ATA Bldg., Washington, D. C.

Jan. 27-29—National Wooden Pallet Mfg. Assn., 10th Semi-Annual Meeting, Hollywood Beach Hotel, Hollywood, Fla.

Jan. 30-Feb. 1—Private Truck Council of America, Inc., 18th Annual Convention, The Sheraton-Jefferson Hotel, St. Louis, Mo.

### Shippers Advisory Boards

Nov. 19-20—Central Western, Denver, Colo.

Nov. 4-5—Ohio Valley, Cincinnati, Ohio.

Dec. 6-7—Trans-Mo-Kansas, St. Joseph, Mo.

Dec. 12-13—Southwest, Palm Beach, Fla.

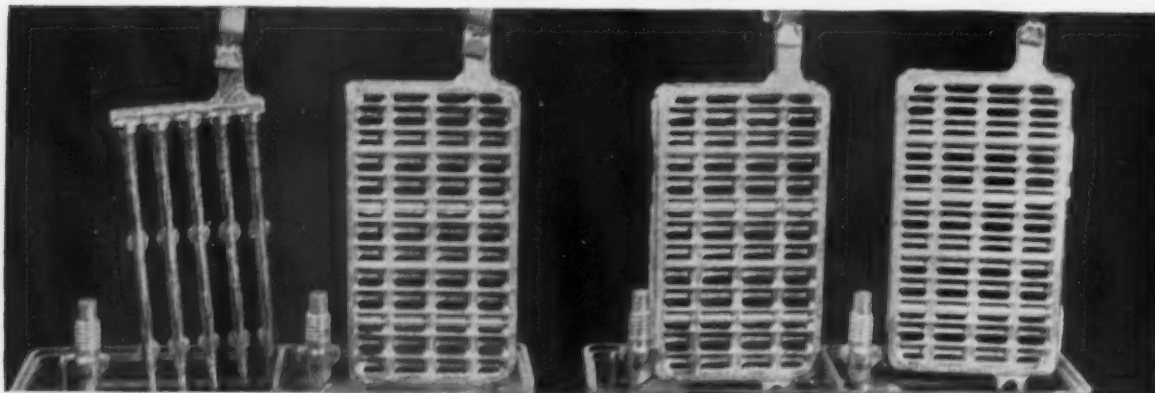
Dec. 13—Allegheny, Pittsburgh, Pa.

### Shipper-Motor Carrier Conference

Nov. 8—Ohio Shipper-Motor Carrier Conference, Inc., First Annual Meeting, Neil House Hotel, Columbus, Ohio.

# EXIDE-IRONCLAD BATTERIES

For electric industrial truck operation

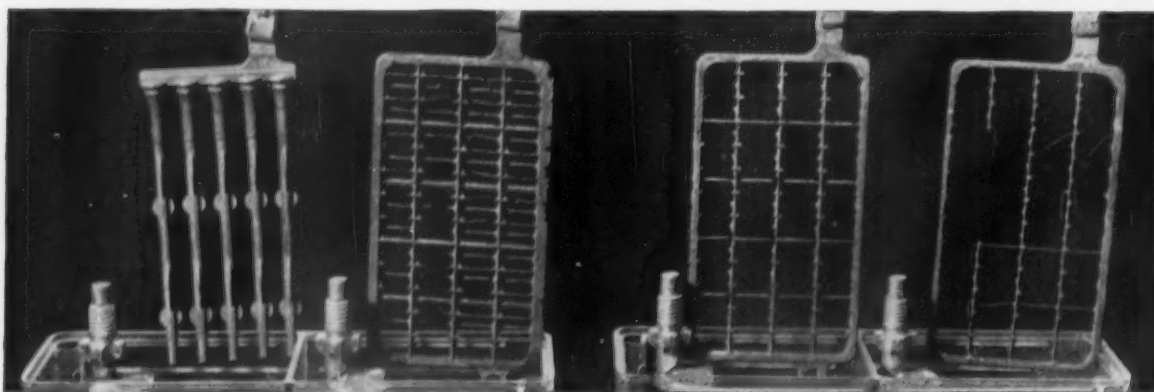


**BEFORE:** Silvium alloy

Alloy "A"

Alloy "B"

Alloy "C"



**AFTER:** Note how the Silvium grid resisted corrosion. Compare it with the other alloys.

## Corrosion resistant SILVIUM prolongs battery life



**BATTERY FOR ELECTRIC INDUSTRIAL TRUCK, Model TH.** Fits snugly into space provided on truck. Has tubular construction of positive plates, Silvium grids, "Permanized" negative plates, extra heavy connectors and all other Exide-Ironclad advantages that mean power to spare in heavy duty applications. Write for Bulletin 5161.



Reaching down deep into every Exide-Ironclad Battery are the fingers of Silvium alloy metal which form the grids of the famous Exide-Ironclad positive plates.

Silvium is a special alloy developed by Exide to resist corrosion and thus prolong battery life. For proof, Exide research engineers compared the performance of an Ironclad Silvium grid side by side with ordinary grids of other lead alloys. As the photographs above show, only Silvium came through the test without damaging corrosion—undiminished in size, unimpaired in strength. The other grids showed from moderate to severe corrosion.

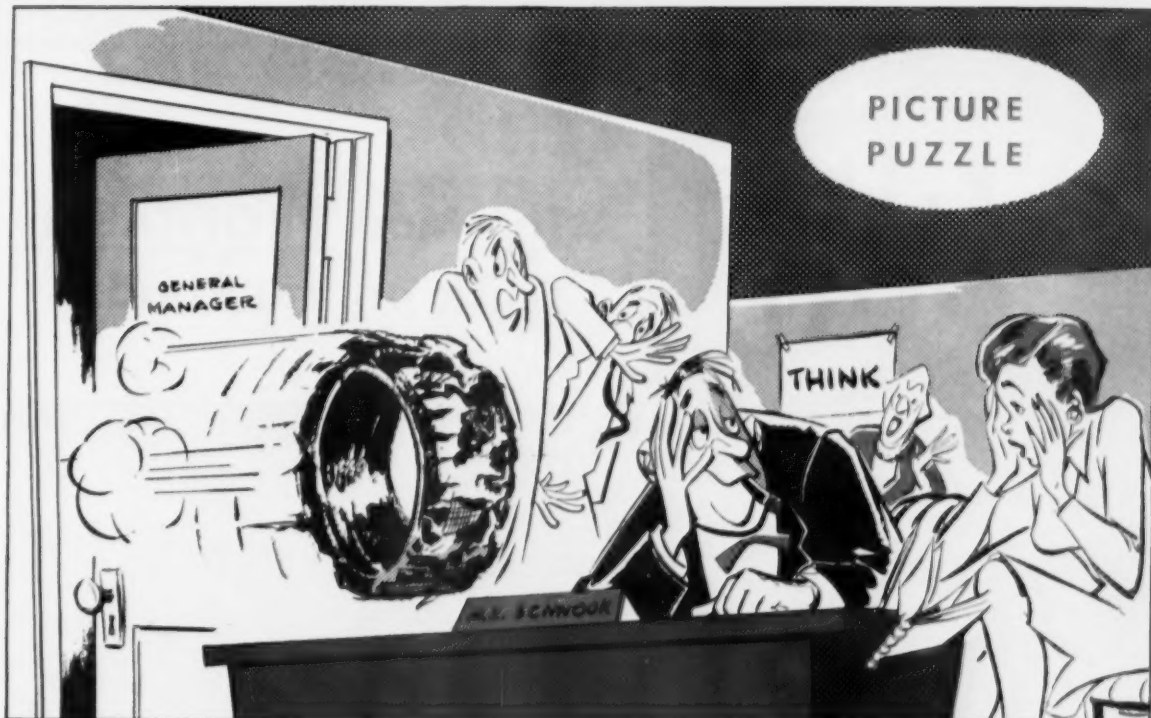
Tests have proved that Silvium is not only more resistant to corrosion, but also a better conductor of electricity.

Hence it both prolongs battery life and—because there's less internal battery resistance—more readily permits heavy drafts of power.

This special material is only one of the many exclusive features which have made Exide-Ironclad Batteries world famous for high capacity and long life. When you order batteries for heavy duty applications, or the equipment requiring such batteries, be sure to specify Exide-Ironclad. Write for detailed bulletin, Exide Industrial Division, The Electric Storage Battery Company, Phila. 2, Pa.

# Exide®

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PICTURE  
PUZZLE

## GUESS WHO DIDN'T SPECIFY MONARCH INDUSTRIAL SOLID TIRES



Schnook, I told you to reduce our replacement tire costs! That "memo" I sent you lasted only 60 days!

*But . . . Chief! I tried! We made an analysis and ordered our lift truck drivers to slow down!*

Analysis? Slow down? Why didn't you save valuable time and specify MONARCH tires!

*Monarch? What's so special about them?*

You amaze me, Schnook! Don't you know MONARCH is the only industrial tire manufacturer specializing in solids? That their development-engineering and production facilities concentrate on producing the best solids on the market?

*If they're that good they must cost more! How can I save by paying a premium for solids?*

Wrong again, Schnook! MONARCH tires cost no more than other brands. They last longer because they're made from premium quality materials.

*You win, Chief! I'll call the local Monarch dealer today for prices.*



Why don't you check the Yellow Pages for your nearest Monarch dealer! Ask him, or write direct, for BULLETIN TD-200. It contains factual proof that Monarch tires wear better . . . last longer.



THE  
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NOVEMBER, 1956

23

Report from another well-known Allied Agent:

# WHITE 3000

## ...The Most PROFITABLE Truck on the Road!



### Here's how WHITE Can help you Cut Costs

Call or write your White Representative for facts about the new economies of the White 3000—standard of the industry from coast to coast. It's the truly modern truck—cross town or country!

LIKE so many other well-known firms throughout the country, Hunter Transfer & Storage Company,\* Texarkana, Tex., has been using White Trucks for many years. They were one of the first in the Southwest to use the White 3000 for moving van service—their first unit was delivered in 1951.

Drivers are impressed with the maneuverability and driving ease. They just keep rolling up the miles at amazingly low maintenance cost... built to pull the toughest loads.

And they're rolling billboards for Hunter Transfer, wherever they go!

No wonder, each succeeding van Hunter has purchased has been a White 3000! It's the most profitable truck on the road!

**THE WHITE MOTOR COMPANY**  
Cleveland 1, Ohio

\*Hunter Transfer—founded in 1897—has been using White for 37 years.

FIRST—IN THE FIELD



FOR MORE THAN 55 YEARS THE GREATEST NAME IN TRUCKS

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# THE NEW HYSTER 20 GETS MORE WORK DONE PER DAY THAN ANY OTHER 2000-LB CAPACITY PNEUMATIC



**Briefly**, here is why you should look further into the Hyster 20. Like all Hyster Lift Trucks, the 20 is designed by men who have had long experience in the manufacture of materials handling machinery, aided by Henry Dreyfuss, noted industrial designer. The result is a truck with an *unusual capacity* to get more work done per day.

**Operator can better see** what he is doing and can maneuver in greater confidence *inside*, and *outside*, under all operating conditions, and in closest quarters.

**Less time is spent in servicing and repair** because the Hyster 20 is *designed* for more time on the job. We can't possibly begin to tell you all you should know about this truck—but call your Hyster Dealer. He will give you the entire story. If you move materials of any sort, you owe it to yourself to look into the very definite advantages of using the new Hyster 20 Lift Truck, or any of the other Hyster Industrial Trucks 1,000 to 30,000 lbs. capacity.

## HYSTER 20 Model QC

Available with Manomast Upright and L-P Gas operation

Call your Hyster Dealer today. He is listed in your telephone directory under "Trucks-Industrial"

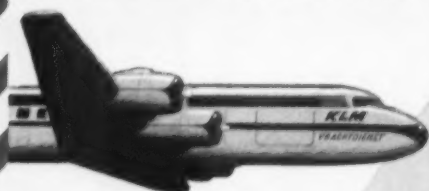


**HYSTER  
COMPANY**

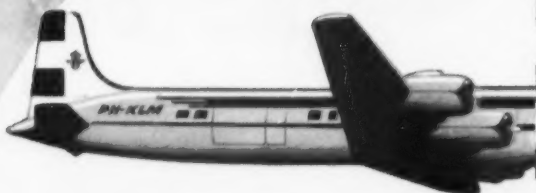


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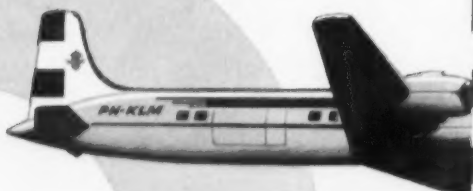
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**Now KLM  
offers 6**



**Transatlantic  
All Cargo**



**Flights  
each week**



**For prompt delivery to all Europe,  
South Africa, Near, Middle and Far East,  
Depend on *KLM*!**

CALL YOUR FREIGHT FORWARDER OR NEAREST KLM OFFICE.

WORLD'S **FIRST** AIRLINE



# On the Line—



## "Steaks for All"

Just about a year ago, we were stirred into criticism of two major traffic and transportation conventions. We got that way because a number of industrial traffic and transportation people expressed their displeasure to us at the lack of inspirational topics on the representative convention programs.

Today, we were stirred to comment on the same two conventions, but a year later. Again, the impetus comes from those attending the convention—the people who will be asked by their bosses and their friends who couldn't attend, "What benefit have you derived from these meetings?"

The point we want to make is that all those who attended the 1956 convention of AST&T and the ATC, at least all with whom we spoke, had nothing but high praise of the programs. Here's just a sample:

**San Francisco**—After the carrier session of "Building People" a prominent industrial TM turned to us and said, "Well, it sure was good to learn that the carriers found time for activities other than beating each other's brains out competitively."

We expressed agreement. He continued, "You know, we and the public at large would have a lot more respect and confidence in the carriers if they would concern themselves with such constructive activities as these mentioned, instead of searching for new ways to say what robbers each thinks the others are."

During the industrial session there were more

pencils and note pads in evidence than we have ever seen. After one speaker finished, a well-known TM exclaimed enthusiastically, "Dog-gone, now here are some ideas I think would do our company a lot of good."

**Miami Beach**—It's about mid-point of the convention but, already, there is no doubt about how the folks in attendance feel about the program: It's the best in years, they say.

The keynote speaker at the general session, a representative of the American Management Association, didn't pull any punches. He said, as many of us know by sad experience, "Management is not aware of the importance of the traffic function." But, he spelled out a constructive program for advancement to top management status.

By inference or direction he blasted some weaknesses of the traffic profession: Narrow specialization; its subordinate position as a staff function; and the claim that many traffic functions add nothing but cost to a firm's product.

That must have jarred the advocates of narrow specialization; just as on the previous day President Pomeroy made many catch their breath with his excellent suggestion for ATC-sponsored industrial expositions (trade shows) of the instruments of the profession.

We are sure that when this meeting is over everyone will return to his home, office, and traffic club with solid food for thought. Last year, we used the words "salt and pepper" to point up our negative comments on these conventions. Today, it's positively "steaks for all!"

*A. W. Greene*  
EDITOR

## Yakkety Yak

**PROMOTION:** A TM bent on improving the prestige of his position, was telling his firm's president how important the traffic function was to the company's success competitively.

... "Hm, m, m, m. Sounds like a good spot for that son-in-law of

mine. I'll send him over in the morning. Teach him the business in a couple of weeks. My wife says I've got to make him a vice-president."

... Somewhat chagrined by the unexpected turn of plans, the TM proceeded to point out that the job required an unusual combination of talent: Knowledge of commodity classification; all forms of freight

transportation, schedules, inter-line routing, rate structures and close adherence to detail; basic accounting procedure; principles of industrial packaging; the technical fundamentals of materials handling; warehouse techniques . . .

... "Okay, okay. Hold it! My son-in-law isn't that good. I'll throw in my mother-in-law."



## The Case of the Talking Dog . . .

► Modeled after a Great Dane and named "Vesta," this transparent plastic dog is complete in every detail . . . skeleton, teeth, muscular system, internal organs, and an intricate mechanical voice. Designed for the Gaines Dog Research Center by a German Museum to promote better care and understanding of dogs, Vesta has toured the United States in a Mayflower Moving Van giving dramatic talks about herself. Crated she weighs 1,440 pounds.

Whether it's a delicate mechanical display, your fine household furniture, a company exhibit or a whole fair, your goods will receive the same expert handling and the same gentle care with Mayflower. The next time you have a long-distance move, call your local Mayflower agent. It's the safe, easy way to move long distance, anytime, anywhere!

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Mayflower Service is available through selected warehouse agents throughout the United States and Canada. Your local Mayflower agent is listed under Moving in the classified section of your telephone directory.



**America's Finest Long-Distance Moving Service**

## LETTERS TO THE EDITOR

### Concealed Damages

To the Editor:

We are a pool car distributor and warehouseman. Furniture is received in cartons in apparent good condition and stored in our warehouse for periods of from one to three months. Deliveries are made on request to our local accounts.

When there is concealed damage on a delivery, the consignee files claims with us and we, in turn, submit them to the railroad. The railroad disallows the claims, saying that they were not notified of the damage within 15 days after delivery of the car.

Naturally, we cannot open each and every package received in our warehouse and inspect it for damage. What is the railroad's liability in cases of this kind?

Maurice H. Burman

Fuchs Transfer Co.  
Baltimore, Md.

*The outcome of this legal controversy depends upon whether or not the contract or bill of lading issued by the carrier specifies that damage claims must be presented within 15 days, after delivery of the car. Also, Federal laws involving interstate shipments must be considered if the shipment was from one state into another state. Otherwise state laws are applicable. Obviously if a valid contract provision or law states that such claims must be filed within 15 days, you stand a good chance of losing your suit.—Len T. Parker, Legal Consultant.*

### Fire Prevention

To the Editor:

Your recent editorial comment on the fire record in warehouses is refreshing. Much as fire protection engineers like to talk about the high flying motives for industrial fire safety, there is no more basic motive, though seemingly selfish, than the reference to dollar savings. People don't usually realize how their collective faults are recognized in insurance rates. Your comments hit warehouse people right in the pocket-book.

The losses that Warren Baker talks about can be prevented in the main if people are interested enough.

Your approach to the fire problem is new to me although possibly other publications have tried something along these lines in the past. If people will read what you have to say, and take necessary action, the results are bound to show.

T. A. Ventrone

American Cyanamid Co.  
New York, N. Y.





## Build with new, low-cost **DEXION** Slotted Angle

**No drilling or welding! No waste!  
Just cut DEXION and bolt the  
frame you want in minutes!**

All you need is a DEXION Cutter and a wrench to transform this precision-made, cold-rolled, galvanized steel angle into practical, useful, economical equipment used almost anywhere in your plant, warehouse, store or office.

Scientifically spaced slots and holes make it easy for you to build an infinite variety of structures. And almost anybody can assemble DEXION. There's no confusing array of tricky parts to cope with.

To save time, work and materials, there's nothing like DEXION. You can use it over and over—it never wears out.

### **DEXION CUTTER**

The secret of DEXION'S fast assembly is the special DEXION CUTTER. One quick downstroke gives you a clean, accurate edge.

### **DEXION PANELS, CASTERS**

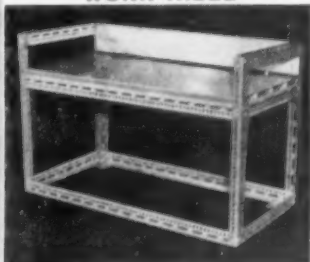
Use DEXION panels for shelving or tables. Will support heavy weights. Bolt easily to any DEXION frame. Casters make frame movable.

DEXION Slotted Angle is a packaged product, ten pieces to the package, 10 or 12 foot lengths. Two sizes: 3" x 1½" x .104" and 2¼" x 1½" x .080".

Write today for free DEXION folder, dept. DBD-116, DEXION Division, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois and for the name of your nearest DEXION office or distributor.



**WORK TABLE**



**GOODS CART**



**STORAGE RACK**

# DEXION SLOTTED ANGLE

**ACME  
STEEL**

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# MILLION CUBIC FOOT WAREHOUSE

served by just **4 ELPAR TRUCKS**



A small fleet that does a big job. Roof high storage.

Dependable, electric powered ELPAR fork trucks are making performance records at one of the nation's largest cold storage warehouses. All 1,000,000 cu. ft. in the plant are refrigerated. Trucks often work in temperatures of zero to -20°F. There are unloading facilities for 5 freight cars and 20 road trucks.

*It is remarkable that just 4 trucks perform this huge handling job on a day-after-day basis. Here are the reasons:*

**1. MODERN HANDLING TECHNIQUES**—Complete palletization saves labor, speeds carrying, and simplifies location of stored goods. Also, loads are *high stacked* to the final inch of the 16 foot high ceiling. Profits are collected on ALL space—so valuable in a refrigerated plant.

**2. TRUCK DEPENDABILITY**—ELPAR trucks have built-in quality that keeps them steadily on the job. Preventive maintenance is easy since ELPAR design features fast accessibility of all assemblies.

**3. ELECTRIC POWER**—ELPAR trucks are fume free and generate no heat. No radiators to be protected. Many lubrication problems connected with use of gasoline engines in cold areas are also eliminated. (Remember, cool, clean, quiet electric power is tops on ALMOST ALL indoor jobs.)

*Write for Warehousing Case Histories  
plus ELPAR Catalog.*



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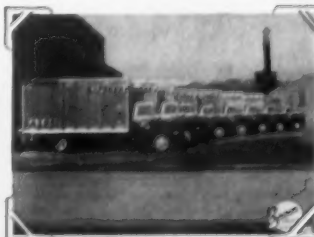
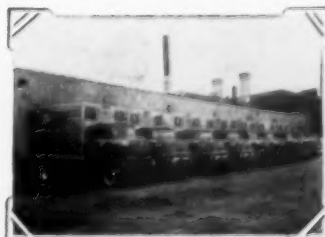
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WASHINGTON

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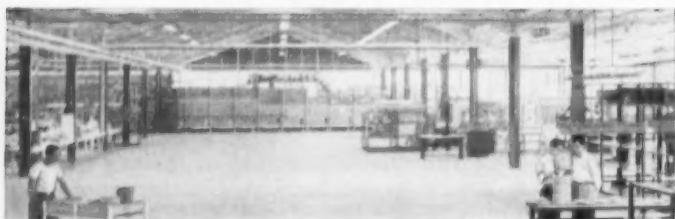
## Another Industrial Leader...



*Lenox* INC., maker of fine China...



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vestment in a Luria Building—in its erection and maintenance—will prove to be substantially smaller.

Whether your expansion program calls for structures as large as the 165,000-square-foot Lenox building or a single small construction, you will find your Luria representative interested...and helpful. Contact him today.

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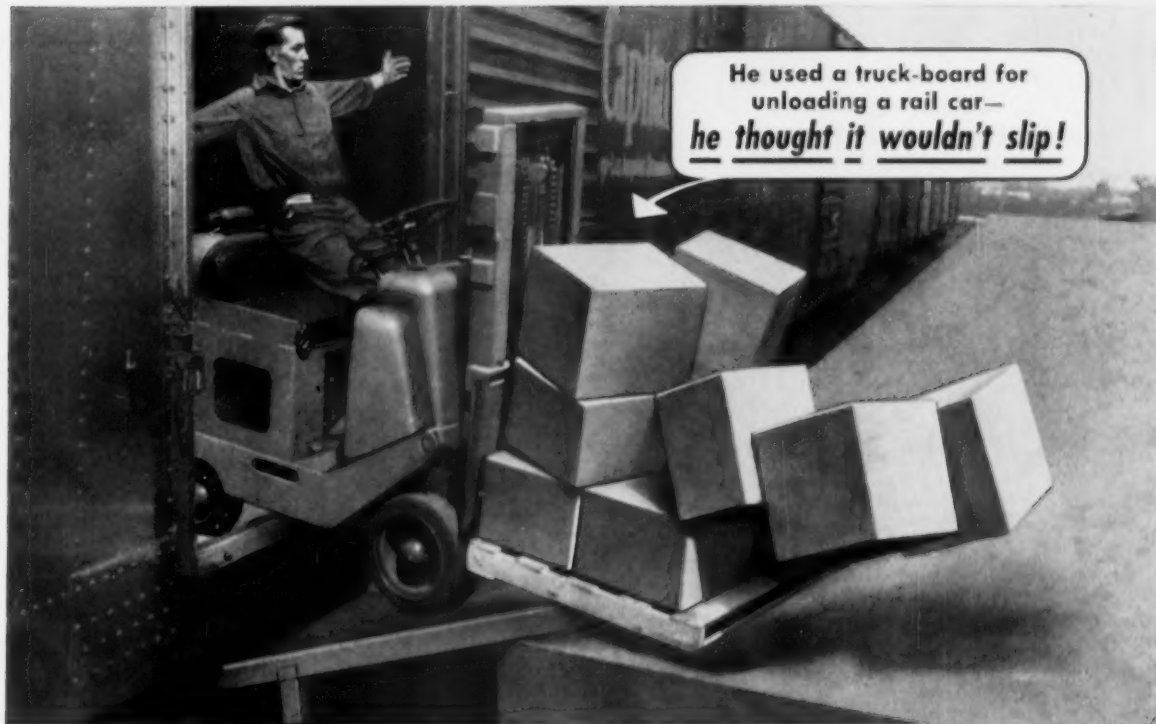
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## New! Eliminate board-slippage accidents like this with Magcoa Adjustable SPAN-LOCKS\*



**THE RIGHT WAY**—Magcoa's new SPAN-LOCKS anchor Dockboard in position you want—prevent board slippage.



**PUSH** . . . it locks and stays locked.



**PULL** . . . it releases for re-positioning.

**Easy-to-adjust SPAN-LOCKS** secure Dockboard in exact position you want . . . regardless of distance between dock and rail car . . . or dock and truck

Here's positive protection against board slippage on your loading dock . . . protection against personnel injuries, against costly damage to loads and equipment.

Adjustable to a fraction of an inch, Magcoa *Span-Locks* hold your Dockboard in the exact position you want for safe, efficient loading . . . dock-to-truck, dock-to-car or car-to-car.

Magcoa *Span-Locks* permit you to use a single Dockboard for both truck loading and rail loading; permit you to use a single Dockboard at both a straight rail track and a curved rail track. In all cases where *Span-Locks* are recommended they increase efficiency while eliminating dangerous board slippage.

**Revolutionary Design**—*Span-Locks* are the ultimate in simplicity of operation. Push . . . and the *Span-Lock* grabs tight and holds tight under the severest of loading conditions. Pull . . . and it unlocks for re-positioning.

**Rugged Field Testing**—*Span-Locks* have proved their ruggedness and usefulness in 15 months of brutal punishment on customer docks. Many customers actually refused to surrender the test units because they were so much more satisfactory than the adjustment pins formerly used.

If you have a loading dock . . . or plan to build one . . . we suggest you investigate Magcoa *Span-Locks* and Magcoa lightweight, heavy-duty Magnesium Dockboards.

A new folder shows a dozen ways in which *Span-Locks* can assure safer, smoother loading. Use the coupon.

\*Patent pending.

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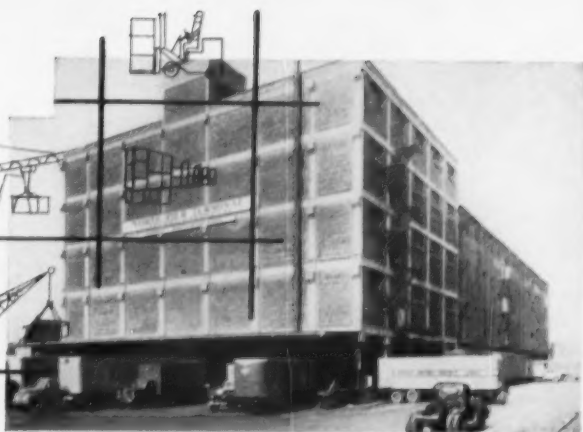
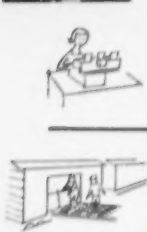
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"Your business is manufacturing and selling. Our business is your warehousing and distribution."

W. W. Huggett  
President



# What **NORTH PIER TERMINAL** *is doing about Old Fashioned* **DISTRIBUTION HEADACHES** *is important to YOU*

## Send for Facts

FIND OUT what AUTOMATION, modern thinking and modern planning have done to costly, old fashioned distribution procedures.

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Find out what North Pier can do for you: how you can be relieved of the costly, time-consuming details of scheduling, routing, shipping, tracing, paper work and inventorying—how you can avoid delays and enjoy the most prompt INS and OUTS you've ever experienced.

Get the facts on how North Pier's new modern Warehouse-Distribution Plan can save you money, time and anxiety. The coupon below is for your convenience. Fill in and mail today.

## Choose a strategic Chicago location:

1. NORTH SIDE, reciprocal switching, all railroads; 200,000 sq. ft. space; 25-truck, 12-freight car loading area; covered platforms; sprinklered; heated; heavy floor load.

2. SOUTH SIDE, all rail lines; 100,000 sq. ft. space of unlimited floor load in ONE STORY; trucks and freight cars loaded and unloaded inside.

3. DOWNTOWN, at edge of Loop; all rail lines; ample loading space for cars and trucks; heavy floor load; mechanized; prompt paper work, inventorying, etc.

IN ADDITION, we offer warehouse and office space in our main building on Lake Shore Drive; have a Barge Dock at 29th & Western; a Ship Dock at 400 E. So. Water St. and a foreign ship dock at Navy Pier.

EASTERN REP.: J. Leo Cooke Warehouse Corp., New York. Phone: WH 3-5090 or JOURNAL Square 2-5080.

WESTERN REP.: Encinal Terminals, Alameda, Calif. Phone: LAkehurst 3-1311.

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# WASHINGTON

# DA



By Ray M. Stroupe, *Chilton Washington News Bureau*

**ALASKA TARIFF REDUCTION**—Growth of industry in Alaska will be helped considerably if the ICC approves a lower tariff on rail freight headed for the territory, says U. S. Interior Secretary Fred A. Seaton. He points out that rail freight shipped from the East and Midwest to the West Coast bears a lower rate when the destination is Hawaii than when it is Alaska. An ICC examiner's report recommends that the rates be equalized.

**AIR TRAFFIC CONTROL**—Automatic traffic control for cargo and passenger planes at all flight levels and speeds will be needed to match aviation growth, warns Louis S. Rothschild, Commerce Under Secretary for Transportation. As a starter, the government has set up a three-year, \$246-million airways development program. New communications and radar gear and other electronic devices are being installed under this program.

**HIT MONEY PROBLEMS**—Special financing problems of small truckers has led to new action by SBA and private industry. SBA has named a committee to examine money difficulties and suggests that the truckers consider a long-range financing plan. ATA, with its own special committee, is looking into possible founding of a credit agency to offer longer-term financing of new equipment.

**RAIL LOADINGS TO CLIMB**—Revenue rail freight loadings will total an estimated 7.8 million cars during this quarter, compared with 7.5 million in the fourth quarter last year. Shippers advisory boards forecast an advance of 14.3 per cent in ores and concentrates, 9.2 per cent in machinery and boilers, and 6.3 per cent in cement transported. Loadings also will be up for coal and coke, prepared roofing, and a number of foodstuffs.

**LIBERTY SHIP CHARTER GRANT**—Permission to charter 30 Liberty ships for coal transportation to foreign ports is granted by the government to American Coal Shipping, Inc. This new firm was formed by three coalhauling railroads, seven coal producers, and the United Mine Workers. It is authorized to use the temporary colliers to bring bulk ore cargoes into U. S. ports. No coastwise or intercoastal operating rights are granted.

**RATE STUDY STARTED**—Current ICC investigation of the adequacy of rail freight charges

will provide background for hearings on the carriers' petition for a 15 per cent increase. ICC plans to begin hearing oral arguments in this case on Jan. 22. Initially, almost all eastern and western railroads asked the rate hike. If granted, it could add another \$1 billion to the transportation costs shippers pay.

**JULY TRUCK TONNAGE RISES**—Motor freight shipments in all nine U. S. geographical regions were heavier last July than in July, 1955, reports the ATA. An ATA survey of Class I intercity truckers shows that the nationwide advance for the month amounted to 11.2 per cent. Especially large gains were made in New England, where strikes in July of last year severely hindered trucking.

**HOPPER LACK SEEN**—Standard rail hopper cars will be too few to meet the demand if steel companies schedule heavy iron ore shipments this winter, the ICC realizes. Supply of hoppers is inadequate in states bordering the Great Lakes even with the ore ships operating. Some of the 25,000 ore hoppers in the mining ranges may have to be put into service if substantial ore movement is to take place after the freeze-up.

**SEAWAY GAINS CITED**—More than 15 per cent of the American share of the St. Lawrence Seaway construction is complete, and obligations recorded thus far amount to \$75 million. Statutory ceiling on this project is \$105 million. Among the big jobs waiting to be tackled is the dredging of shoals between Summerall Island and Morrisburg, N. Y. Next spring the Seaway Corp. intends to advertise for bids on this work.

**ATA FAVORS APPEAL**—Appeal by the ICC for a U. S. Supreme Court ruling in its case against a Mount Vernon, Wash., motor carrier is supported by ATA. A lower court held that the Home Transfer & Storage Co., Inc., movement of frozen produce should be free of ICC regulation. ATA argues that expansion of the agricultural exemption from ICC rules threatens performance by ICC of its regulatory role.

**WILL SUPPLY TRUCKS**—Clark Equipment Co., Battle Creek, Mich., is awarded a contract to supply \$1,777,669 worth of gasoline-powered fork trucks to the Air Force.

# The Only 100 Million Mile V-8

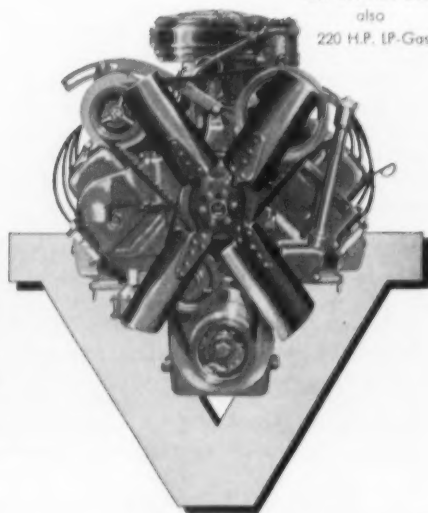
**PROVED IN OVER 100 MILLION TRUCK MILES**

- No beefed up passenger car engine matches Reo's bigger payload power.
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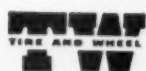


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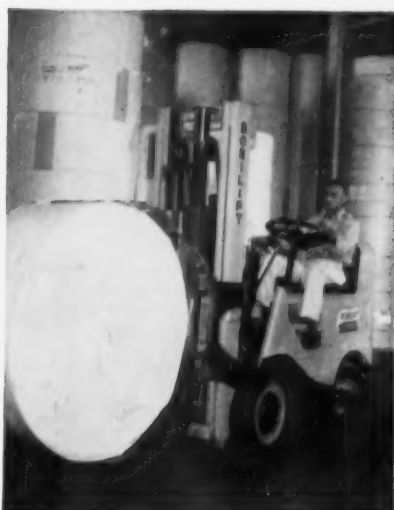
# B.F. Goodrich



## Analysis cuts tire costs



**Varying loads and conditions** at the Port of Portland warehouse calls for versatile tires. You just can't beat these B. F. Goodrich All-Purpose pneumatic tires for all around use in all kinds of weather, inside or outside.



**Paper for paper cups.** Here a heavy coil of paper is moved gently to production lines at the Solo Cup factory in Chicago. Roll clamps and the cushioned ride provided by B. F. Goodrich DeLuxe Cushion Pressed-On tires protect both the load and floors from damage.



**Potatoes for potato chips!** About 160,000 pounds of raw potatoes are handled every day by this truck at the H. W. Lay and Company plant in Atlanta. Smooth Tread Pressed-On tires absorb shock, provide load protection, reduce floor wear and lessen driver fatigue on this big job.

### Ask for a FREE TW Analysis

If you know which industrial tires—which types, sizes, tread designs and compounds—are right for your materials handling jobs, then you can cut your tire costs. The B. F. Goodrich Tire and Wheel Analysis man can give you the answers. His recommendations could save you as much as 50% on tire costs, up to 20% on maintenance expense. Just mail the coupon for this free service. A consulting service is available to manufacturers of materials handling equipment.



**B. F. Goodrich Tire Company**  
A Division of The B. F. Goodrich Company  
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I would like further information on your  
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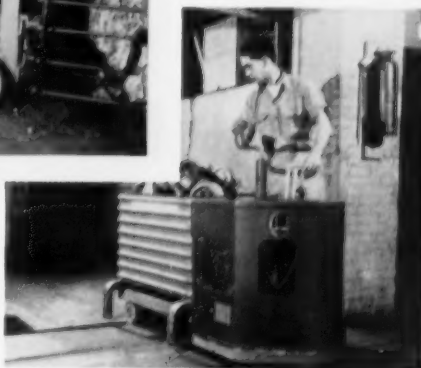
STREET \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_



**Specialized equipment saves money!** Pronged attachments for handling wool saved \$8,320 per truck annually in this textile mill. Long-wearing B. F. Goodrich Pressed-On tires with smooth treads are saving money here, too, because they are engineered to match the job.

**Sometimes a combination is best!** On this truck the main drive wheel (under housing) is a B. F. Goodrich Pressed-On tire with a traction tread. The two tires on the load wheels are Vulcanized-on tires for extra load capacity.

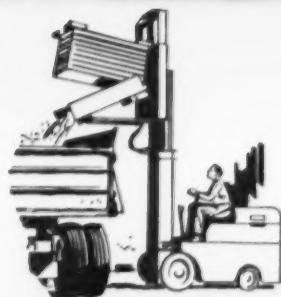


**Specify B. F. Goodrich tires when ordering new equipment**

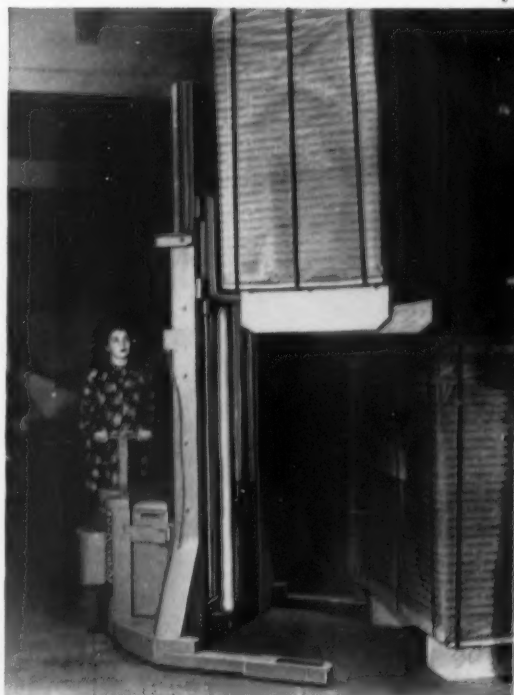


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# How materials handling is made easier by **B.F. Goodrich** Industrial Tires



← **Fast, quiet and cushioned!** These new electric sit-down trucks run quickly and quietly through the aisles of this big Food Fair warehouse. Smooth Tread DeLuxe Cushion Pressed-On tires help cushion fragile food loads, prevent damage.



→ **Dual drive wheels** and differential action permit easy steering of this pedestrian-operated power lift truck. B. F. Goodrich Vulcanized-on tires with smooth tread are "just right" here. They will take heavy loads and withstand the wear and tear of short, sharp turning.



**Car-mover and yard-hauler, too!** This vehicle handles two jobs. It pulls railroad freight cars. Or it drops its "ground" wheels with B. F. Goodrich All-Purpose pneumatic tires, drives off the tracks and pulls trailers through factory yards. All-Purpose pneumatic tires provide the traction and strength required for versatile use.



**Up and down the ramp 125 times a day with sugar!** Here's a job that B. F. Goodrich Pressed-On Lug tires help make easy. Pressed-On tires provide firm cushioning to protect loads, lessen driver fatigue by reducing vibration. The Lug tread supplies the traction necessary to negotiate ramps in all kinds of weather.

**more** →

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By John H. Frederick

DA Transportation Consultant



NOVEMBER, 1956 .... Vol. 55, No. 11 .....

**A** FEW years ago one never would have considered that the growth of long-distance private transportation would become one of the most serious problems facing the for-hire carriers and regulatory bodies of this country. Yet so great has been its development, both on the highways, in the air and on the inland waterways, that today long-distance private transportation is coming in for a great amount of attention.

The opinion seems to be developing that inter-city private transportation has become so extensive that already it is impairing the nation's essential system of for-hire transportation.

There is, today, a substantial amount of private carriage over long distances both of persons and property much of which could have been handled by for-hire carriers had shippers and travelers so desired. Private passenger aircraft are used by many companies for transportation of officers and others so that, in terms of plane-miles, this flying is approximately equal to the amount flown by common carrier airlines.

On the Great Lakes and other improved waterways, the great majority of ton-miles carried are in private tankers, ore carriers, and other vessels.

There are no figures to show the proportion of traffic handled in shipper-owned trucks, not for hire, but it is very large. Almost all pipelines are common carriers but, due to the nature of the industry, are owned by one of their principal users.

#### User Influence

Users have been influenced by a variety of considerations applying in different degrees under varying circumstances in developing their own transportation facilities. However, usually it has been to meet the needs not ade-

quately, economically or efficiently met by for-hire carriers; with service, rather than cost, being the compelling consideration. In some cases for-hire carriers were not available or showed no interest in making the investment required; because of the specialized nature of the operation or because of uncertainty as to the profits involved with a limited number of potential users.

Particularly in connection with the movement of bulk commodities, the development of specialized facilities has great advantage and has been done privately with the special needs of the owners' business in mind. Even for non-bulk traffic there are other important advantages in private carriage such as the provision of service exactly when and where it is most advantageous to the user; avoiding rehandling, and entirely eliminating or lessening packing requirements.

#### Distribution Functions

The degree to which various distribution functions such as sorting, quick shifting from one out-

let to another, and controlling of inventory can be carried on in the course of moving goods emphasizes the possibilities of private transportation. The transportation function may be integrated more readily with other operations of a business or industry, when performed by means of private rather than for-hire carriage, with resulting benefit both from cost and service considerations.

Private carriage also can be used as a check on the upper limits of charges of for-hire carriers, the degree to which this can be done varying with the shipper's ability to arrange his traffic to give balanced loads in both directions of haul.

The right of private transportation, particularly by highway, is of economic importance to small as well as to large business and industry. Indeed the flexibility of private transportation frequently is the controlling factor in enabling small business units to compete with larger organizations. Such transportation services can be established with little or modification. (Please Turn to Page 120)

## The Problems of Private Transportation

**Private carriage has become an important part of our national transportation network, however, certain inequities working to the disadvantage of for-hire carriers, are in need of correction**



Mass production on a scale known in the automotive industry is impossible in the airframe industry, where the variety and volume of items forced new approach to handling-packaging

By T. E. Mechem,

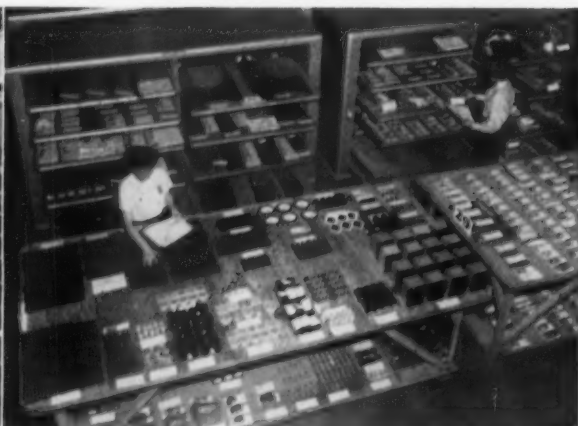
*Supervisor, Plant Engineering, El Segundo Div., Douglas Aircraft Co.*

## Intra-Plant Parts Handling With Inter-Plant Problems



Shipping procedures, temporary storage, and in-plant movement of goods are expedited by use of wheeled shelf-trucks

Storage boxes are stacked three-high on top of frame-type storage racks used for bar stock, angle iron, pipe, etc.

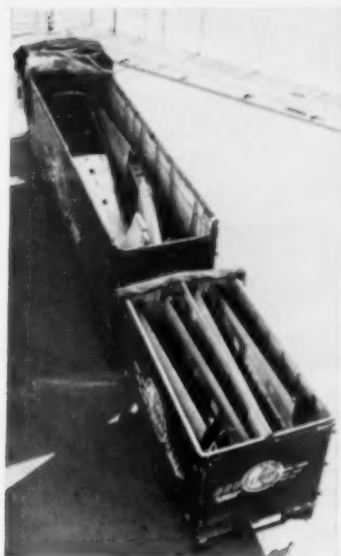


"Breadboard" arrangement slides in and out of cabinets; cabinets are rolled from spare parts section to shipping

Sheet stock, extrusions, and other bulky items on trailers and packaged items on shelf trucks in the check-in aisles







Above: Douglas-designed trailer and pup trailer haul complete fuselage



Left: Odd-shaped, hard to handle items are stored in metal storage coffins

Below: Three-tier shelf truck can be moved through plant via trailer train



are removed by grabs and lowered to floor position, where the proper sheets are selected for shearing.

### 3000-sq ft Space Saving

Storage of steel angle iron, tubing, and bar stock presented a problem in the area allotted, which was inadequate. It was, therefore, necessary that racks be made strong enough to hold the additional supply of material as received from suppliers. When additional material is required in the lower racks, the coffins are removed to the floor and the supplies replenished. In one bay, 3000 sq ft of warehouse area was saved by this installation.

A purchased parts storage stockroom contains bolts, nuts, stationery, cotter keys and rivets. Trailers deliver parts from the receiving-inspection area, and they are dispatched to the various levels by conveyors. The third deck is used for storage of lighter products, such as light bulbs, neon globes and light paper products.

A production stock item train takes a full load of stock items which will be redistributed to the sub-assembly and assembly lines throughout the entire plant. The purpose of these trucks is to replenish the supplies of the small cabinets which are placed strategically throughout the various assembly areas. The stock item in the areas are called Free List Items, and are open-binned to assembly personnel.

(Please Turn Page)

**T**HE AIRFRAME manufacturer is faced with a different conception of the terms distribution and production than the one faced by general industry. This is due to the complexity of his article and, more important, to the small releases and their effect upon production.

The problems and procedures of materials handling and packaging in the airframe industry are not akin to mass production methods of the typical Detroit automotive manufacturer. The airframe people are faced with the problems of handling the tooling required to fabricate and assemble parts, the processing, and the special handling and packaging of delicate parts and completed assemblies.

The influence of electronics and high speed upon aircraft, plus close competition among manufacturers, forces an entirely new concept of materials handling, packaging, and manufacturing in the aircraft field. At Douglas, also, a special approach was needed to solve the problems created by scattered manufacturing facilities.

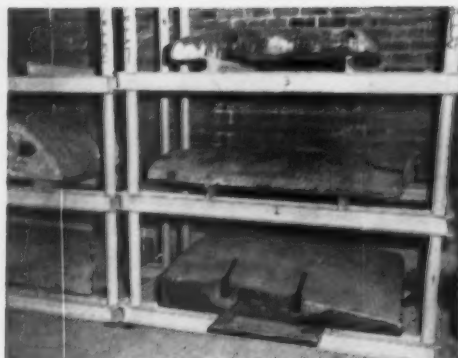
We have found it necessary to use all space economically by using the height of our building to its extreme limits. Spars and bar stock are stored in demountable racks. The racks can be picked up with both sling and outside clamping arm grabs. The materials warehouse has 100 per cent crane coverage to handle this large volume.

In storing of packaged miscellaneous products we use, whenever possible, demountable storage racks. This allows our entire storage area to become a fluid, ever changing operation, which is vitally necessary in airframe manufacture.

### Crane Handling

Overhead cranes with slings handle storage coffins which contain small aluminum tubing, extrusions and other difficult storage items. All sheet stock is stored on pallets and stacked in the warehouse. These pallets then

Editor's Note: Mr. Mechem's original paper on the subject, entitled "In-Plant Parts Handling at Douglas Aircraft," was presented at the 25th Anniversary National Packaging Conference, in Atlantic City. The Conference was sponsored by the American Management Association.



Above: Stretch press die storage racks permit economical storage of odd-size and shape dies

Left: A variety of sizes and shapes are accommodated in these tubular raw stock storage racks

## Intra-Plant Parts . . .

(Continued from Preceding Page)

Palletized storage lines practically every aisle of our material storage areas. Lift trucks often are used to handle these products. Every available square foot is used to its maximum.

Our painting department and paint storage has a problem in the mixing of different paints, due to rigid Navy specifications. It is necessary to have a balanced chemical mixture of paints which have not aged, settled or chemically deteriorated in any way. Therefore, it is necessary to mix

paint daily and supply it to the various paint stations throughout the plant. Paint is metered to the mixing tanks to exacting amounts with thinner through a piped system for a balanced mixture.

### Shipping Procedures

In the old method, all parts ready for shipment were placed on shipping tables, wrapped, identified, and Navy-inspected for packaging. We solved our packaging and handling problem by constructing a "breadboard" which

slides in and out of the cabinets.

These cabinets, after inspection, are rolled to the Shipping Department. A neat layout is possible using removable shelves. The entire cabinet contains itself within 36 in. width and has rubber casters for transporting to the crating area.

As parts are received from production they are packaged, wrapped and sealed, according to Navy specifications for overseas shipment and stored in the racks. From these racks parts are then taken to the breadboard carts.

In 1951 our office received a request for 1500 additional industrial trailers from production and  
(Please Turn to Page 85)

Heavy-duty fork truck moves dies from outside storage area to production line



Powered, three-wheeled personnel vehicle is used for delivery of mail





Two-story office building adjoins terminal. Fork trucks and in-floor-truck-dragging system handle in and out shipments



Weatherproof roof stretching 1500 ft along rail tracks provides sheltered loading space for 122 trucks, 104 rail cars

## Pool Car Terminal Processes 2,000,000 lb. of Freight a Day

New Ford terminal in Detroit serves as funnel into which pour approximately 200 truckloads of parts each day. Small shipments are consolidated at terminal for delivery to 16 assembly plants

**M**ORE than 2,000,000 lb of automobile parts now can move daily through the new Ford pool car terminal.

The terminal, which began operation in June, serves as a giant funnel into which Detroit area plants of Ford and its suppliers pour approximately 200 truckloads of parts each 24 hours. The terminal's employees consolidate these relatively small individual shipments into full rail carloads for delivery in trains to 18 Ford and Mercury assembly plants and a majority of the company's parts depots.

Built by the Wabash Railroad, the 15 acre terminal is leased by the railroad to Ford. Its weatherproof roof stretches 1500 ft along the Wabash tracks to provide sheltered loading space for 104 rail cars and 122 trucks.

A two-story office building in the center of the terminal provides approximately 15,000 sq ft of space for a staff which checks all shipments in and out, and directs routing and loading.

Trucks back into docks which are equipped with hydraulic levelators adjustable to the height of each truck bed. Power fork lifts can be driven inside the trucks, picking up those loads which arrive on wooden pallets or skids.

To move freight through the terminal to rail car locations, freight handlers place their loads on carts which are towed automatically up and down the terminal by an in-floor conveyor system.

Rail cars are spotted four abreast in the siding. Steel bridges are placed between cars so employees may drive fork lifts through them to deposit loads in

the cars farthest from the dock.

Shipping documents automatically go to and from the offices through a system of 22 pneumatic tubes. The new terminal replaces two older Ford pool car locations. Combined, they provided capacity for little more than 750,000 lb of freight daily.

This was well below Ford requirements and the old facilities did not offer enough protection from weather. The weather problem has been met by extending canopies 23 ft out on both sides of the terminal dock. This covers the rail cars and all but the longest trucks, and will keep snow and rain out. Large spotlights can be pulled down from the roof to illuminate the interior of trucks and rail cars, so unloading and loading may proceed around the clock. ■



# Containerization and the Roll-on-Roll-off Principle

Two 8400-dwt roll-on-roll-off ships are planned to augment containerized



Loaded vans waiting to be lifted aboard ship. The ship has been provided with tripod mizzens to clear deck space and add lift capacity

A PAIR of 8400-dwt roll-on-roll-off ships, already in the planning stage, are expected to expedite service provided by the Alaska Steamship Co. between the Port of Seattle and Alaska.

The vessels, which will be used to haul loaded railroad cars and trailer vans, will complement a highly developed containerization program already in use by the company.

Initial experiments in containeri-

zation were made by the steamship company in 1949. Since that time the program has been moving ahead steadily with an ultimate goal of complete containerization.

Inauguration of roll-on-roll-off service will serve, in effect, as a further development in the containerization program.

Last year the firm purchased some 6,000 60-cu ft capacity collapsible wooden containers, or

cargo cribs. This brought the total of such units owned by the company to 60,000. At the same time a five-acre open storage area was pressed into service as a marshalling yard for vans and containers.

Three of the line's ships have been equipped with additional 30-ton booms serving No. 5 hatch. This conversion permits each ship to load and carry 17 loaded trailer vans.

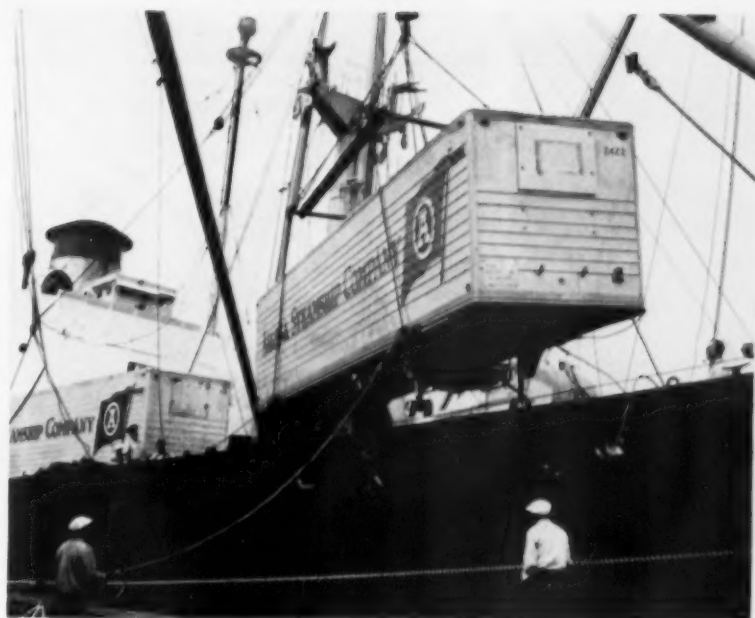
Faster dock delivery time, reduction in marking and packaging requirements, and improved out-turn at destination are some of the shipper advantages claimed for containerization as practiced by the steamship company.

## Reduction in Claims

In 1952, cargo claims represented 1.8 per cent of total cargo revenue. This dropped to 1.6 per cent for 1953, and down to 1.3 per cent for 1954.

Considering the company's record areawise, unitization of its southeastern area began in 1953, and on a lesser scale in its south-





Above: Trailers are secured on fixed and portable rests with chain lashing

Left: Loaded van being lifted aboard ship. Crane permits pin-point stacking

## shipping from Seattle to Alaska

western division. The trailer-van service, with the Garrison Fast Freight, began in August of that year.

Southeastern OS&D claims for 1952 represented 2.1 per cent of revenue. They dropped 36 per cent to 1.3 per cent for 1953, and remained there in 1954. With unitized volume up over 10 per cent for this area in 1955, claims are expected to drop below the 1.3 per cent figure.

Southwestern district's claims of 1952 were 2.3 per cent of revenue. They dropped to 1.8 per cent for 1953, and down to 1.4 per cent for 1954—a total decline of 39 per cent. This drop looks even more favorable when one considers that the company carried appreciably more unitized tonnage to southwestern Alaska in 1954, and the percentage of claims showed a drop. Similar unitization benefits were experienced in lesser tonnage areas.

Unitization also has been responsible for keeping vessels on schedule and providing regular sailings week after week. A by-



Loaded vessel pulling away from Pier 42, in Seattle. This ship, and its two sister ships, have a capacity of 17 loaded highway trailers

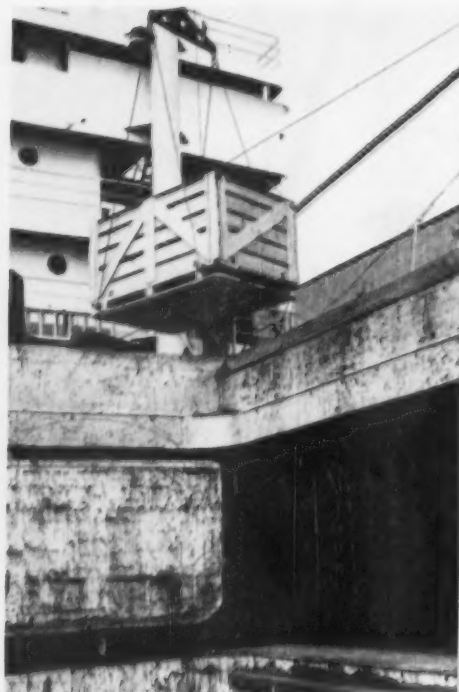
By Warren E. Crane, *DA Pacific Northwest Correspondent*

product of unitization has been the reduction in the number of personal injuries, which showed an attributable drop of 75 per cent. The key benefit from the reduction of incidents leading to the filing of claims is customer satisfaction, which cannot easily be measured, but is reflected in the growth of the unitized service.

Unitized service is the firm's term for its entire container pro-

gram. Basic elements of the program include 60-cu ft capacity collapsible wooden cribs, 144-cu ft capacity corrugated iron "gards" for protection of valuable and pilferable items, and 2000-cu ft capacity insulated trailer vans.

The cribs are constructed of a 4 x 6-ft cargo pallet base, with sides of 2-ft, 10-in. high slatted boards. The boards are spaced  
(Please Turn Page)



Above: Collapsible crib with pallet base being lowered by crane into the hold of outgoing ship

Left, top: Metal containers with crane hooks are spotted and stacked in hold by a fork truck

Left, bottom: Pallet base permits movement of crib from truck to dockside at end of journey

## Containerization . . .

(Continued from Preceding Page)

about two inches apart, and secured by two lugs attached to the bottom of each side. They fit into slots in the base. The top of the crib is made of  $\frac{1}{4}$ -in. plywood.

Inside dimensions of the cribs are: 5 ft, 8 in. long; 3 ft, 8 in. wide, and 2 ft, 10 in. high. Tare weight is 315 lb.

### Loading Procedures

In loading, the usual procedure is to erect three sides of the crib, build the load, then complete the crib assembly. Fastening of the top or lid of the crib is accomplished by means of metal strap-

ping. A band is drawn around the crib about three inches from each end.

When the strap is drawn tight the strain is on the vertical side members. A  $\frac{5}{8}$ -in. band is sufficient for light cargoes. Proportionately heavier bands are necessary for heavier loads. Simple metal corner fastenings are permanent fixtures of the assembly.

The cribs are made available to shippers at Pier 42 in Seattle for loading and sealing at their own dock. They are employed in cargo movements to all areas in Alaska—from Ketchikan, in south-

eastern Alaska, to Nome, in northwestern Alaska, including the rain-belt interior of the territory.

Shippers in Alaskan trade have developed a technique of towing the steamship company's cribs through warehouses and stock areas on four-wheel industrial trailers. A small tractor can tow a train of four or five cribs for simultaneous loading of the ship. Check-out and loading have been developed into a single operation, and no marking of individual cartons or cases is necessary.

Shippers of small volumes, who do not have fork trucks, generally assemble each crib in place on the motor truck bed. Loading is completed in that position, with only slightly more difficulty than floor loading.

The metal cargo gards are 6 ft, 5 in. long, 4 ft, 3 in. wide, and 6 ft, 9 in. high. They have skid-type legs to permit fork truck handling

(Please Turn to Page 88)

**I**MPROVED customer service, fewer runback miles, and less telephone calling are the advantages a motor carrier has come to expect from two-way radio dispatching. Now, a New Jersey trucker is cashing in on still another plus factor—smoother traffic flow on busy metropolitan streets, with resultant savings that add up to important dollars in a year's time.

Since going on the air in July, 1955, the Hermann Forwarding Co. reports savings of up to an hour and one-half a day per truck as a result of radio traffic advisories.

For example, a driver finds a block-long line at the entrance to the Holland Tunnel. He radios this fact to the dispatcher at the New Brunswick terminal. The dispatcher, in turn, routes other drivers through the Lincoln Tunnel or over the George Washington Bridge.

On the other hand, if a driver finds a certain route clear of traffic congestion, he relays his information to the dispatcher, and other trucks then can be directed to the better route.

Company trucks pick up and deliver over a wide area, including eastern New York, Connecticut, New Jersey and Long Island — more territory than every driver can possibly know in detail. Since truck and base radios operate on the same channel, drivers can talk from truck to truck. This direct communication proved particularly helpful when a new driver became lost in Brooklyn and radioed for help. An experienced driver 10 miles away gave him street instructions for reaching the dock he was seeking.

#### **Faster Service**

All these advantages of faster service and less wasted mileage add up to a profit, according to company officials. After one month's trial operation with a leased system consisting of a base and five mobile radios, the company purchased the system outright and laid plans to expand to an all-radio fleet of 45 trucks.

Hermann was among the first truckers to be granted an FCC

## **Radios Help Trucks Avoid Traffic Delays**

**Savings of up to an hour and one-half a day  
per truck is the result of radio advisories  
on traffic congestion and routes to avoid it**

license to operate radios in the new 43-44 megacycle Motor Carrier Radio Service. To get maximum coverage, the 250-watt base station transmitter is located on top of a 500-foot hill southwest of Manhattan. It is controlled by wire line from the terminal eight miles away.

The company's trucks and tractors carry 30-watt transmitter-receivers, installed beneath the dashboard. All sets are tuned to a frequency of 44.10 mc FM.

Dispatchers and drivers talk back and forth over distances of 30 to 40 miles and in some directions as far as 60 miles. Coverage is complete throughout most of

New Jersey and the New York and Philadelphia metropolitan areas. Satisfactory communication has been maintained as far as Stamford, Conn., and Atlantic City.

Of course, the drivers cooperate in getting messages through. If a truck is beyond the base station coverage range when a radio call goes out for him (or he originates a call to the base dispatcher), one of the drivers closer in may overhear the message and relay it by rebroadcast. This happens several times daily and has a double value, because it effectively extends the radio coverage and also welds the drivers into a closer team.

*(Please Turn to Page 90)*

**Trucks equipped with Motorola two-way radio are dispatched from second copies of waybills which are kept in a rack according to truck and stamped with time**



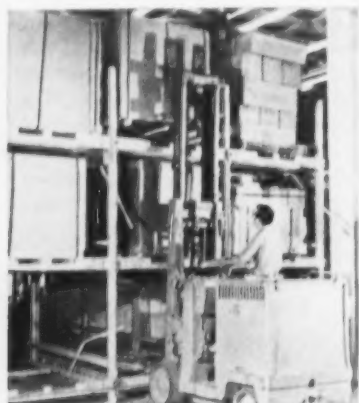


# PRODUCTS

... FOR FURTHER INFORMATION

## Live Storage Racks

Made of heavy conveyor rollers, Alvey-Ferguson Co.'s new heavy duty racks give quick reference organization, first-in-first-out control, and efficient short-term storage for heavy



loads. Loads move through rack lanes by gravity and are retarded by automatic brakes and hand-operated stops.

Circle 1 on Card Facing Page 55

## Light Industrial Conveyor

A light industrial portable conveyor, Model 1300, has been developed by American Planter Co. Standard equipment includes sealed gears, ball bear-



ings, reversing switch and emergency switch. Length may be varied.

Circle 2 on Card Facing Page 55

## Electric Tractor

New Tug electric tractor, designated as model 751, has been announced by Mercury Mfg. Co. It has a maximum drawbar pull of 3000 lb and a no-load speed of 7½ mph. Designed with seat at the rear for easy coupling, the tractor has automotive-wheel-type steering. Driving wheels are equipped with internal

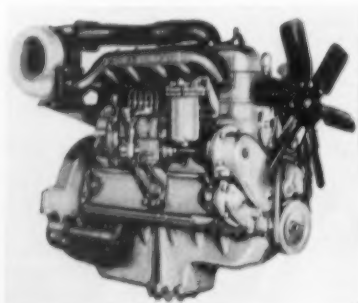


expanding hydraulic brakes applied by pedal. Electrical design includes full magnetic contactor control with timed acceleration, controlled plugging, and four speeds forward and four reverse.

Circle 3 on Card Facing Page 55

## Three Diesel Engines

Hercules Motors Corp. is offering three series of Turbo-Charged diesels. TCD-501 (shown) is a six-cylinder



model with 4½-in. bore and 5¼-in. stroke. It produces 178 hp at 2000 rpm. Length, fan-to-flywheel, is 48 9/16 in. The TCD-895 with six cylinders produces 320 hp. It is 62 in. long. TCD-1468 is an 8-cylinder V-model rated at 520 hp. It is 59 7/16 in. long with the turbo-charger located in the V.

Circle 4 on Card Facing Page 55

## High-Lift Truck

Heavy counterweights, a heat-treated tilting mast, 42-hp engine, and power steering are featured by the Knickerbocker Co. in its new



W-50 heavy-duty warehouse high-lift truck. The truck has 32-in. inside and 96-in. outside turning radii. Width is 38 in.

Circle 5 on Card Facing Page 55

## Electric Tractor

A light-weight, high-speed electric tractor has been announced by Lewis-Shepard Products Inc. Complete with batteries it weighs 1620 lb and has



traction speed of 5.2 mph when pulling a 5000-lb load. There are two speeds controlled from the handle for walking and two more speeds controlled on the floor of the compartment.

Circle 6 on Card Facing Page 55

DISTRIBUTION AGE



# and EQUIPMENT

PLEASE USE THE READERS' SERVICE CARD • • PAGE 55

## Conveyor Supports

Heavy duty rigid supports for gravity conveyors have been introduced by **Speedways Conveyors Inc.** The Speed-A-Just tripod stands are available in three different models



with height adjustments ranging from 14 to 78 in. off floor. Conveyors rest on the stands and require no bolting.

Circle 7 on Card Facing Page 55

## Low Rail Flatcar

Because the floor is 10 in. lower than that of conventional flatcars, the Lodapto, made by **American Car and Foundry Div. of ACF Industries,**



can carry highway trailers through low-clearance tunnels. The 38-ft car has standard couplings.

Circle 8 on Card Facing Page 55

## Noiseless Typewriter

A new noiseless typewriter announced by **Remington Rand** is



available in six pastel shades to match standard and electric typewriters of the same company.

Circle 9 on Card Facing Page 55

## Conveyor Lubricator

An improved 100 Series conveyor lubricator has been announced by **J. N. Fauver Co., Inc.** Improvements include the complete enclosure of the

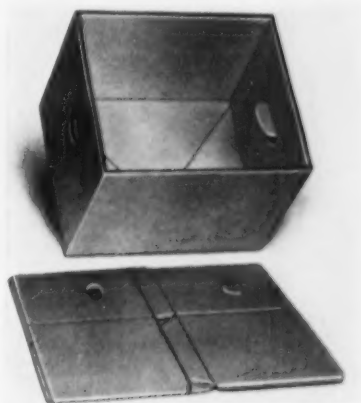


mechanism in a non-porous aluminum housing, crown filters and regulators, redesigned trip-mechanism that actuates a valve through a cam. Models are available for use with trolleys and chains, slat-type conveyors, and hot zone applications. There are eight models in the series.

Circle 10 on Card Facing Page 55

## Easy-Open Tote Box

The Miracle Tote Box, introduced by **Paige Co.,** automatically pops open for use and pulls flat for storage. Made of heavy duty double walled corrugated, this one piece box is designed with an automatic folding action which makes it collapsible. It can



be locked open and can be collapsed at least 50 times without showing signs of wear. The box is available in two sizes, 17 x 13 x 14½ in. and 15 x 12 x 10 in. It is supplied with covers, and heavy gage polyethylene liners are available at extra cost.

Circle 11 on Card Facing Page 55

## Plastic Conveyor Belts

Two thin sheets of Mylar polyester film, manufactured by **E. I. DuPont DeNemours & Co.,** are joined to-



gether to form plaques for a new conveyor belt. The plastic is resistant to most acids and alkalis.

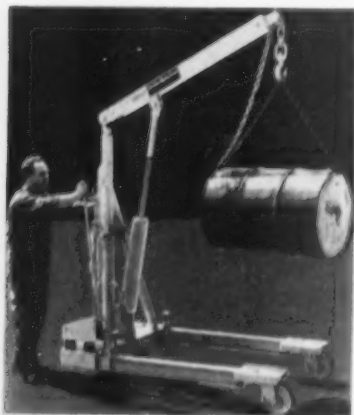
Circle 12 on Card Facing Page 55

# **DA NEW** PRODUCTS and EQUIPMENT

CONTINUED FROM PREVIOUS PAGE

## **Portable Crane**

A new thrift model has been added to the hydraulic portable floor crane line of The Stratton Equipment Co. It stacks, loads freight, transfers heavy parts, removes engines, lifts cars and lifts truck fronts. It is equipped with



a safety release valve to prevent overloading. The sliding extension beam gives 39 in. of additional lifting length or height and adjusts to three different positions. It is available in 1, 2, or 3-ton models. For export shipping purposes, it can be collapsed.

Circle 13 on Card Facing Page 55

## **Stacker Car**

A stacker car which can be swung manually 180 deg at the end of a Flex-Bend Car Loader has been announced by the R. T. Sheehan Co.

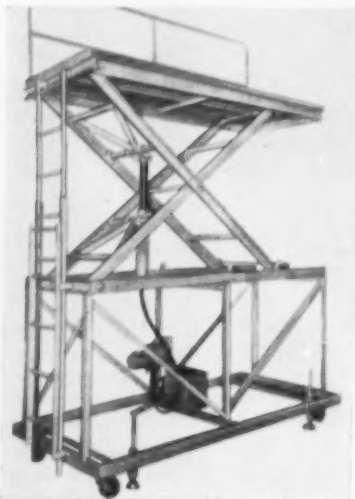


The operator guides the boom to the spot where he wants to place the bag and the conveyor system does the rest. The car has an 18-in. belt and comes in 6 and 8-ft. lengths. The boom raises to a height of 84 in. and lowers to 18 in.

Circle 14 on Card Facing Page 55

## **Lift Work Platform**

A hydraulically operated work platform for production and maintenance work above ground level is manufactured by the Ballymore Co. Heights can be increased from 5 to 10 ft

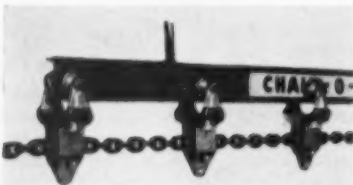


through any of the three power sources available — electric current from outside, battery operated motor, or hand pump. Access to the 33 in. x 7 ft, 8 in. platform is by telescoping ladder.

Circle 15 on Card Facing Page 55

## **Trolley Conveyor**

Series T-100 of the Chain-O-Flex Corp. trolley conveyors is available for operation on either 3-in. I-beam or 2½ x 2¼ x ½-in. T-beam. Especially practicable for operation in temperatures up to 350 deg F, the series uses two-piece trolleys which eliminate the need for load pendants.

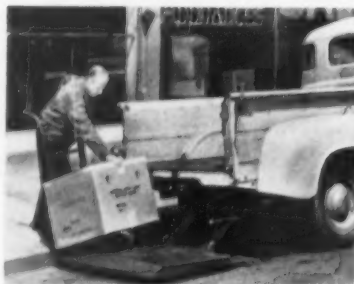


Trolley capacities range from 80 to 160 lb and can be doubled.

Circle 16 on Card Facing Page 55

## **Elevating Tail Gate**

An elevating tail gate for pick-up trucks is being produced by the H. S. Watson Co. For use on ½, ¾, and 1-ton truck bodies, the gate is operated by steel cable and a hand winch. It will lift up to 650 lb with 20-lb



hand effort and 16 turns. A completely automatic load brake prevents accidental dropping. The operating linkage is all under the truck. There are no protruding side posts. The gate can be removed and re-installed on another truck. Platform widths are 48, 50 and 54 in. All are 26 in. deep with a 5-in. beveled ramp.

Circle 17 on Card Facing Page 55

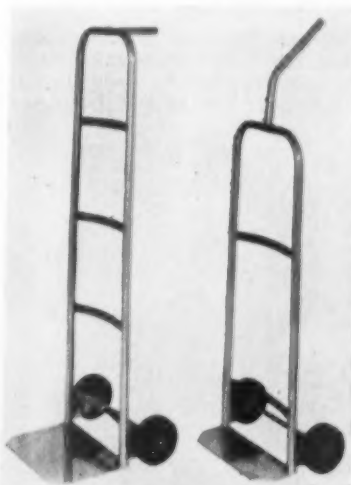
## **Invisible Sand**

Invisible Sand, a new friction coating to reduce strapping and taping of palletized cartons and bags, is announced by International Products Corp. It will not stick packages together even if they are stacked before the sand dries. It does not hide markings or address labels.

Circle 18 on Card Facing Page 55

## **Two-Wheel Hand Trucks**

A variety of styles of all-steel two-wheel hand trucks called Load Lift-

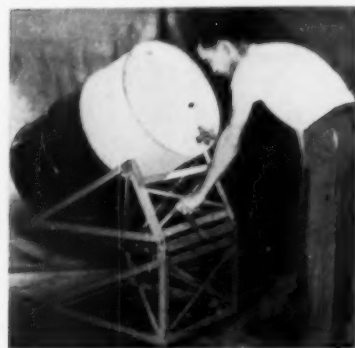


ers is produced by Bernard Franklin Co., Inc. All have arc welded, heavy gage tubular frames.

Circle 19 on Card Facing Page 55

## Drum-Draining Rack

The Revere Dispensing Rack, manufactured by the Standard Safety Equipment Co., offers an advanced



method of draining drums quickly, easily and safely. A crank in front operates a gear mechanism raising or lowering the drum. The rack is supported on four steel casters permitting greater mobility. One man is able to put a drum on the rack, roll it to the proper location, then adjust the drum to the correct height by cranking.

Circle 20 on Card Facing Page 55

## Lever Lift Truck

A lever lift truck of 1500-lb capacity has been developed by Thern Machine Co. The truck is designed to move loads on skids or in properly



designed bins within a plant or warehouse. It also can be used to move shipments from a loading dock to a truck or railroad car. Width is 25 in. and overall length 43 in.

Circle 21 on Card Facing Page 55

## Steel Rod Shelving

Metropolitan Wire Goods Corp. has developed a new steel rod shelving that is assembled without nuts, bolts or screws. Constructed of heavy-

weight steel rod which have been notched for locking with uprights,



the shelves have a heavy load capacity. Shelving and uprights are plated after fabrication. Widths are 12 and 18 in., with lengths of 24, 36 and 48 in. Uprights range from 4 ft, 3 in. to 7 ft, 3 in.

Circle 22 on Card Facing Page 55

## Interoffice Communication

Automatic voice control that does away with manual operation of switches during conversation yet per-



mits private communication is featured in the new Super Chief Automation Series 7700 of Talk-A-Phone Co. Voice control, traffic control and monitoring signal as well as closed circuit conferences all are handled automatically. Series 7600, a companion model, features automatic touch control and traffic control.

Circle 23 on Card Facing Page 55

## Materials Mover

The Prime-Mover Co. has incorporated a torque converter in its new 1½-ton capacity industrial materials



handling truck. The new truck has top speed of 12 mph and is available with a bulk-handling bed or flatbed.

Circle 24 on Card Facing Page 55

## Heavy-Duty Truck

Gerlinger Carrier Co. is introducing a new line of heavy-duty fork-lift trucks in the 12 through 15-ton group, designated as series M. The four new models all have push off

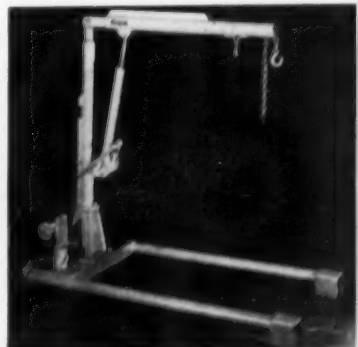


arms and crane attachments. Specialized equipment also is available. The M-24, M-26, M-28 and M-30 lift 12, 13, 14, and 15 tons, respectively. Available with either gasoline or diesel engines, the M's are equipped with dual-tired front wheel drive. Two wheel, caster-type rear axle steering is designed for maneuverability. Overall length without forks is 229 in. In lifting rated loads, their speeds are standardized at 50 fpm to a height of 10 ft.

Circle 25 on Card Facing Page 55

## Portable Floor Crane

A new quarter-ton capacity portable hand-operated hydraulic floor crane has been offered by Ruger Equipment, Inc. A telescopic outrigger can be extended to either side of the unit to offer stability, and the crane's boom



can be unlocked from its usual position of alignment between the crane's legs and swung to the side a full 90 deg. The crane has a rated capacity of 500 lb and is equipped with a self contained hydraulic system incorporating an overload relief set at 700 lb.

Circle 26 on Card Facing Page 55

(Please Turn Page)

# **DA NEW PRODUCTS and EQUIPMENT**

CONTINUED FROM PREVIOUS PAGE

## **New Tow Truck**

Hudson House Inc. is introducing a new model in its tow truck series which is a departure from the all-hydraulic three-wheel trucks which it has produced in the past. The new addition is a two-part vehicle combi-



nation of platform truck and tractor, so connected that the operator has accurate control when the unit is being driven in reverse as well as forward. Like earlier models it operates on either automotive or commercial type batteries.

Circle 27 on Card Facing Page 55

## **Flexible Shelving**

A new kind of shelving which can be built to fit user's needs is being



produced by The Frick-Gallagher Manufacturing Co. Called Quick-Bilt Shelving, it is easily assembled or rearranged. Starting with a basic unit consisting of base shelf, top shelf, back panel and two end panels, the user slides in as many shelves as needed.

Circle 28 on Card Facing Page 55

## **Portable Magnesium Yard Ramp Introduced**



A portable magnesium yard ramp which can eliminate long trips through the warehouse to elevators has been introduced by Magnesium Co. of America. Incoming trailers can

be spotted near a ground level scale or storage area and the ramp moved into position by one man without aid of powered equipment.

Circle 29 on Card Facing Page 55

## **Electric Cars**

West Coast Machinery Inc. has added the dispatcher to its fleet of electric cars. Designed for swift

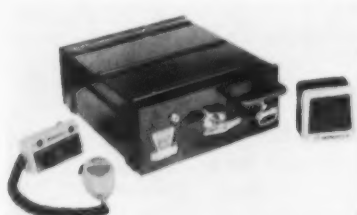


messenger service, it is 30 in. wide and 74 in. long with 1/4 ton capacity.

Circle 30 on Card Facing Page 55

## **Two-Way Radio**

A mobile two-way radio rated at 100 watts transmitter power output has been announced by Motorola, Inc.



The transmitter is capable of up to four channel operation. Receiver, transmitter and power supply are contained in a steel case 6 x 15 x 20 in.

Circle 31 on Card Facing Page 55

## **Low Fork Truck**

Designed for operator safety in loading closed highway trucks and trailers is the 6000-lb electric fork



truck by Baker-Raulang Co. It needs only 6 ft of clearance, yet the operator's seat is 38 in. below the top of the mast.

Circle 32 on Card Facing Page 55



### Conveyor Guard Rail

Speeds of 100 fpm are made possible by a new automatic guard rail for the Metzgar Conveyor Co.'s Flex-A-Switch. It can be furnished where shifting of the switch is electric, pneumatic or manual. Dual auto-

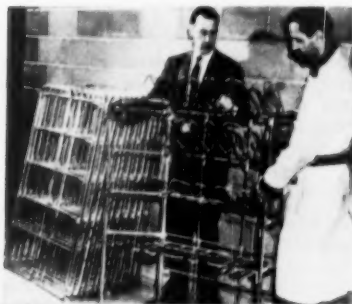


matic rails are recommended for maximum safety in overhead installations.

Circle 33 on Card Facing Page 55

### Collapsible Handling Racks

Lightweight, but strong and durable, these new wire racks are collapsible for easy, compact storage. They require a minimum of floor space when not in actual use. Open construction of removable wire shelves prevents accumulations of dirt and facilitates cleaning. Dished wheels provide complete maneuverability. Racks are zinc-plated for greater corrosion resistance and longer life. They are manufactured by E. H. Titchener & Co.



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Circle 34 on Card Facing Page 55

### Truck Tires

A new line of truck tires with a steel wire shield between tread and carcass has been announced by United States Rubber Co. An extra-deep tread gives greater mileage while the steel shield protects the tread from cut and rupture damage, the company says.

Circle 35 on Card Facing Page 55

### Carton Stapler

Container Stapling Corp. has marketed an Actuated Anvil heavy-duty carton stapler, Model SHD. All wearing surfaces are hard chrome plated.

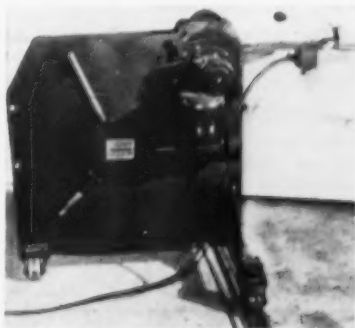


The chassis is of stainless steel to eliminate rust. Manual operation is combined with pneumatic construction to reduce maintenance.

Circle 36 on Card Facing Page 55

### Strapping Dispenser

An electric power dispenser for cutting steel strappings to specified lengths is the latest addition to Allegheny Steel Band Co.'s complete line of steel strapping, tools and accessories. Known as Model E-5600, this new accessory dispenses strapping at an approximate rate of 250 fpm, and can handle any size of heavy



duty strapping from  $\frac{3}{4}$  in. x .028 in. to 2 in. x .050 in. It can be mounted on casters or installed permanently.

Circle 37 on Card Facing Page 55

### Piped Fire System

A compact, automatic dry chemical fire extinguishing system for flammable liquid, electrical and textile fire hazards has been developed by Ansul Chemical Co. The 30-lb piped system is intended primarily for protection of moderate hazards such as overhead

cranes, or textile lint. The system consists of a dry chemical unit installed near the hazard. A special carbon dioxide gas pressure cartridge furnishes pressure to expel the dry chemical from this unit through the piping. Total flooding or local application can be provided. Automatic operation occurs when heat of a fire causes a fusible metal link located above the hazard to part.

Circle 38 on Card Facing Page 55

### Track Casters

Hamilton Caster & Manufacturing Co. has designed a new series of casters with V-grooved track wheels. Both swivel and rigid models are offered with semi-steel wheels having machined grooves to operate on angle



steel track. They are available in heavy duty semi-steel models 6 x 2 in. and extra heavy duty forged steel 8 x 2  $\frac{3}{4}$  in. Both are equipped with roller bearings and pressure grease fittings. The wheels can be operated on floor surfaces as well as tracks.

Circle 39 on Card Facing Page 55

### Platform Trucks

A new group of four-wheel platform trucks for manual or drag-line operation has been announced by Nutting Truck and Caster Co. Cargo



carts are designed for stock replenishing and order picking.

Circle 40 on Card Facing Page 55

**FREE**

# LITERATURE

## Gas Fork Truck

An illustrated folder, Bulletin 1349, on the FG-20, 2000-lb, 48-in. gas fork truck has been prepared by **The Baker-Raulang Co.** Capacity and dimensional specifications are included.

Circle 41 on Card Facing Page 55

## Car Spotter

**Link-Belt Co.** is offering a 24-page illustrated book 2092, on its car spotter. Cars are spotted in a moment with just two or three turns of rope around a motor-driven capstan.

Circle 42 on Card Facing Page 55

## Stencil-Cover

A booklet has been prepared by **Reynolds Ink, Inc.** telling how to block out old stenciling, permitting boxes, crates, cartons, drums, etc. to be restenciled and used again.

Circle 43 on Card Facing Page 55

## In the Driver's Seat

"Put Yourself in the Driver's Seat" is the title of a bulletin offered by **Allis-Chalmers, Material Handling Dept., Buda Div.**, describing how better operator performance is obtained with industrial trucks through built-in driver comfort and convenience.

Circle 44 on Card Facing Page 55

## Data File

**Magnesium Co. of America, Tobey Aluminum Div.**, has prepared an illustrated folder on its aluminum trucks and accessories. A data file showing the dozens of standard types and sizes also is available.

Circle 45 on Card Facing Page 55

## Chain Slings

A new 42-page catalog, No. ADV-719, on chain slings, chain sling fittings, and accessories has been published by the **Bolt and Chain Div., Republic Steel.**

Circle 46 on Card Facing Page 55

## Car Puller

A folder is offered by **American Engineering Co.** on its car puller. It is electrically-driven, pulls loads in a straight line, up grades and around corners.

Circle 47 on Card Facing Page 55

## Case Studies

The value of standardization in the packaging equipment field is stressed in a 40-page survey made available by the **American Standards Assn.** It contains 79 documented case studies covering 27 industrial fields.

Circle 48 on Card Facing Page 55

## Routing Guide

An illustrated and informative routing guide has been prepared by **The Adley Express Co.** It gives a complete listing of almost 2000 points served by 19 terminals linking the Eastern seaboard markets.

Circle 49 on Card Facing Page 55

## End-Loading Straddle Carrier

**Ross Carrier Div., Clark Equipment Co.**, has prepared a four-page folder on its end-loading straddle carrier line. The huge trucks, in capacities from 10,000 to 50,000 lb, are capable of speeds up to 45 mph fully loaded. Lumber, pipe and tubing, crates, and palletized goods are among the types of loads handled by the straddle carriers.

Circle 50 on Card Facing Page 55

## Live Storage Racks

The **Alvey-Ferguson Co.** has prepared a six-page illustrated brochure, RA-56, on A-F Live Storage Racks. It tells how custom and pre-engineered racks can store such items as short-lived inventory, parts in process, palletized loads, different-sized packages, component parts, etc.

Circle 51 on Card Facing Page 55

## FILMS

### Loss & Damage

"A Job For Joe" is the title of the third Loss and Damage Prevention Film made by **The Southern Railway System.** It highlights a well-known bit of freight service arithmetic. Satisfied customers—more business and revenues—more and better jobs for railroaders.

Circle 52 on Card Facing Page 55

## Hand Lift Trucks

**Barrett-Cravens Co.** is offering Bulletin 551 covering hand lift trucks with advanced hydraulic mechanism and other features making it easier to handle heavy loads.

Circle 53 on Card Facing Page 55

## Expendable Pallets

The **Mead Corp.** is offering a booklet telling how to save with unitized loads, fork trucks, and **Poke-Pak** and **Glide-Pak** expendable pallets.

Circle 54 on Card Facing Page 55

## Industrial Trucks

**Lamson Mobilift Corp.** is offering two bulletins "Move Materials Faster" and "Facts on Mobilift Installations in Your Industry," describing in detail many uses for the sit-down and stand-up industrial trucks.

Circle 55 on Card Facing Page 55

## Shippers' Guide

**Pacific Intermountain Express** has prepared a Shippers Guide giving direct service points, coast to coast service, terminals and offices.

Circle 56 on Card Facing Page 55

## Overhead Conveyor

**Chainveyor Corp.** has a new four-page bulletin describing and illustrating its new low cost overhead conveyor.

Circle 57 on Card Facing Page 55

## Liquid Bonding Agent

**Standard Dry Wall Products, Inc.**, is offering an eight-page folder, No. 48, describing a new liquid bonding agent for improving adhesion between old and new concrete, plaster, etc. It gives its characteristics and methods of application.

Circle 58 on Card Facing Page 55

## Warehouse Construction

A brochure detailing many of the principles of warehouse planning and construction is offered by the **Butler Mfg. Co.**

Circle 59 on Card Facing Page 55

## Coil Grabs

**Mansaver Industries, Inc.**, is offering a pamphlet illustrating and describing many models of grabs for moving metal coils.

Circle 60 on Card Facing Page 55

## Industrial Trailers

Mercury Manufacturing Co. has prepared four two-page bulletins describing eight industrial trailers. Bulletin TR-101 covers Models A-610 and A-660, fifth wheel steer trailers of 4000 and 6000 lb capacity. Bulletin TR-102 covers Models A-510 and A-520, fifth wheel steer trailers of four and six ton capacity. The heavy and extra-heavy duty trailers are described in Bulletin TR-103, Models A-614 of 10 ton capacity and Model A-443 of 30 ton capacity. The fourth bulletin, TR-104, covers Mercury's dump trucks, Model A-370, a caster-steer truck and Model A-670, a fifth wheel steer truck.

Circle 61 on Card Facing Page 55

## Lift Trucks

Hyster Company has prepared a 12-page brochure of industrial lift trucks. It is designed for quick reference of 25 different truck models ranging in capacity from 1000 to 30,000 lb.

Circle 62 on Card Facing Page 55

## Lightweight Pallet Truck

A bulletin on its lightweight hydraulic pallet truck Model L2P, is offered by The Raymond Corp. Truck has a one-piece welded steel frame, dual purpose brake, and a turning radius of 270 deg.

Circle 63 on Card Facing Page 55

## Air Shipping Guide

The Port of New York Authority has prepared a booklet "Guide To Air Shipping." It includes regulations, facilities, practices, routings, services, charges and rates.

Circle 64 on Card Facing Page 55

## Trailers and Rockets

A brochure entitled "Fruehauf In The Atomic Age" has been prepared by Fruehauf Trailer Co. It deals with the engineering, design, development and manufacture of trailer equipment for use in national defense.

Circle 65 on Card Facing Page 55

## New Packaging Tapes

A brochure has been issued by Permacel Tape Corp. describing two new tapes for use in printing, packaging and identifying. One tape, Permacel 9, is made of acetate fibre. The other, Texcel 45, is made of cellophane. Both may be secured in a variety of colors.

Circle 66 on Card Facing Page 55

## Conveyor Equipment

Prab Conveyors, Inc., is offering a catalog, No. 500, featuring new models of customer built conveyor equipment; an automatic magnetic elevator for handling small parts; an enclosed bulk materials handling conveyor, and a piano hinged steel belt conveyor.

Circle 67 on Card Facing Page 55

## Super Dreadnaught Battery

A bulletin No. GB 1668-B is offered by Gould-National Batteries, Inc., describing its new super dreadnaught batteries for industrial trucks. It gives full details of battery construction and engineering specifications for the three available ampere-hour capacities (40, 60 and 120).

Circle 68 on Card Facing Page 55

## Air Freight Booklet

Copies of an informative booklet on freight service are available from the Cargo Sales Div., United Air Lines.

Circle 69 on Card Facing Page 55

## Industrial Truck Index

Revolvator Co. has prepared a complete industrial truck index of over 600 combinations of sizes and capacities of Red Giant models.

Circle 70 on Card Facing Page 55

## Slotted Angle Frames

The Dexion Div., Acme Steel Co., has prepared an Idea Book on the many uses for its slotted angle. Included among the uses are storage racks, shelving, movable shop desks, etc.

Circle 71 on Card Facing Page 55

## Steel Containers

Randolph Industrial Equipment Co. has prepared an eight-page catalog on their new line of low-cost all-steel parts handling and storage equipment. It includes specifications and use for all models of stacking containers, expanded metal baskets, nesting pans, tote boxes, racks, and pallet bases.

Circle 72 on Card Facing Page 55

## BOOKS

### Freight Car Distribution

The Association of American Railroads has published a 338-page book entitled "Freight Car Distribution and Car Handling in the United States," by Eugene W. Coughlin. It is the aim of the volume to collect, present and discuss the good and the bad car handling practices, giving at the same time the "reasons behind the various rules, regulations, reports and forms involved in freight car handling and distribution."

The book is the first ever published dealing exclusively with the use and efficient handling of freight cars. Copies are available from the Car Service Div., Association of American Railroads, Washington, D. C., at \$2.40 per copy.

For prompt service, use postage-free postcard provided to obtain FREE LITERATURE and NEW PRODUCT information described in this issue. All material is FREE unless otherwise noted.

## Electric Fork Truck

A 20-page catalog has been prepared on the Model "E" electric fork truck by Lewis-Shepard Products, Inc. It outlines the heavier mast, faster lift speeds, easier to operate controls, improved floating brakes and improved effortless steering.

Circle 73 on Card Facing Page 55

## Record Handling

Remington Rand, Div. of Sperry Rand Corp. has bulletins available telling how record handling can be simplified through the use of microfilm and photocopy equipment and techniques.

Circle 74 on Card Facing Page 55

## Industrial Truck Tires

Bulletin TD-200, tells how the Monarch Rubber Company can supply a complete range of tire types and sizes for industrial trucks.

Circle 75 on Card Facing Page 55

## Lift Truck Job Study

Job Study No. 97, published by Towmotor Corp. tells how a transportation company cut handling time 85 per cent with Towmotor Materials handling equipment.

Circle 76 on Card Facing Page 55

## Storage Racks

Sturdi-Bilt Engineering Co. has prepared a booklet on its new adjustable storage racks detailing its speed, low cost and ease of installation.

Circle 77 on Card Facing Page 55

## Automatic Truck Ramp

Loomis Machine Co. provides information on its Model 96A and 96AU automatic truck ramp. It speeds loading, unloading and requires no manual attendance.

Circle 78 on Card Facing Page 55

## Deep-Tread Tires

Made with high tensile strength rayon, a new deep-tread truck tire said to give up to 55 per cent more mileage, more recaps and superior traction has been introduced by the Dayton Rubber Co. Called the Dayton Thorobred Deep Skid, the tire features 50 per cent deeper tread and a carcass of 2,200 denier super cordura rayon.

Circle 79 on Card Facing Page 55

# WHAT'S NEW ON WHEELS

**More powerful engines along with trailers of larger capacity promise greater payloads for less money from the newest trucks and trailers**

**M**ORE powerful gasoline, diesel, and LP-gas engines along with trailers of larger capacity are featured by truck-trailer manufacturers in their latest models.

Modernizing has resulted in trailers with greater payloads and higher, wider doors.

Safety and driver comfort are claimed for the redesigned trucks. Some companies are featuring entire new lines while others are stressing individual models.

For 1957 Chrysler's **Dodge Division** is offering the K series truck with higher horsepower V-8 engines. Gvw and gcw ratings have been increased and the front end restyled.

Largest of the Dodge V-8s, used on a new six-wheel model, has 354 cu in. displacement with twin carburetors. Six-cylinder engines are available on smaller trucks.

Introduction of 12 additional six-wheel models, eight of them cab-over-engine type, has been announced by the motor truck division of **International Harvester Co.**

Powered by three new V-8 engines, the eight COE six-wheelers have gvws from 30,000 to 41,000 lb. Engines are available in horsepower ratings ranging from 206 to 257.

## Payload Advanced

An advance in payload and power is claimed by **The White Motor Co.** on its COE 3000 turbodiesel. With this addition, the White line is engineered for maximum payload under any pattern of state highway weight and length laws and under situations where heavy front axle loadings are important factors.

The new tractor with a full 35-ft trailer may be accommodated within 45 ft and a 40-ft trailer, even with sleeper cab, will have an overall length of less than 50 ft.

In the trailer field, **Brown Trailers, Inc.**, is introducing new aluminum trailers which provide loading space gains of up to 20 per cent.

The new straight floor, 35-ft dry freight van has 5-in. greater  
(Please Turn to Page 58)



Eight six-wheel COE models have been added by International Harvester Co.



A 45-ft overall limit can be met by this Reo COE and a 35-ft trailer



High-tensile carbon steel is used in these modernized Fruehauf Trailers

Lightweight models of the Autocar use aluminum for the cab and engine parts







Side and roof stiffeners in this new Brown trailer increase load space



Rounding out the White line is a new turbodiesel with a high, power-lift cab



Dodge offers choice of a standard cab or a custom cab on models 100 to 600



Diamond T puts more weight on front axle to permit a larger legal payload

## Trucks to Have Important Part of National Auto Show

The trucking industry in December will bring together its greatest gathering of highway transportation equipment as part of the National Automobile Show. Sponsored by the Automobile Manufacturers Association, the event will be held Dec. 8-16 in the New York Coliseum. The theme, "America on the Move," will be amplified in a stage presentation by topflight New York entertainers and personalities.

This first national show in 16 years will see trucks in a new position of prominence. Trucks, equipment, and special attractions will be displayed by 11 manufacturers—Dodge, White, Reo, International Harvester, GMC, Chevrolet, Ford, Studebaker, Diamond T, Mack, and Willys. It will occupy the first floor of the four-story building. In addition to individual exhibits, manufacturers will present an institutional theme to tell dramatically the story of trucking in the nation's economy.



# What's New on Wheels . . .

(Continued from Preceding Page)

inside loading height, a 3-in. greater inside loading width, and a 3¼-in. greater inside loading length.

Gasoline and LP-gas engines are available in COE truck tractors introduced by **Reo** for use where greatest possible payloads within legal limits is desired. The Super V-63 tractor, 63 in. from front of bumper to back of the cab, can pull a 35-ft square-nose trailer within 45-ft overall limit.

## Higher Trailer Cube

**Fruehauf Trailer Co.** has modernized its high-tensile carbon steel trailers to provide higher and wider doors and higher-cube interiors. Doors, while more rigid and stronger, are only 1 in. thick. They are smooth both inside and outside and have double cam latches to keep them tightly locked.

Operating improvements include easier coupling. Wiring is easily accessible with all circuits protected by circuit breakers. The junction box can be readily reached from outside without interfering with the cargo.

An advancement for **Studebaker** for 1957 is the addition of the heaviest truck in the company's history. Gross vehicle weights are 18,000-19,000 lb. Standard engine will be the 289 cu in. V-8 with a four-speed transmission. The new line will have four chassis and cab models. Wheelbases are 131, 155, 171 and 195 in.

## Series Expanded

**GMC Truck and Coach Division** has expanded its series of heavy-duty trucks for peak performance in both highway hauling and off-the-road operations.

The heavy-duty models range from four-wheel gasoline-operated trucks with 22,000-lb gvw to tandem-axle vehicles with 90,000-lb

gcw. Several entirely new models are offered.

A flat-bed, general purpose trailer of low weight, moderate cost and rugged durability is produced by **Trailmobile Inc.** The SW-50 Flat is designed to carry a uniformly distributed floor load. This is done by a design which utilizes outer main rails as load-carrying members.

A turbo-supercharged diesel engine is used by **Diamond T** in its COE Model 723CJT. It is claimed to deliver better than seven miles per gallon with a gross combination weight of 60,000 lb. It is rated at 175 hp.

Placing a greater percentage of total weight on the front axle permits the unit to handle larger payloads and still meet common legal axle weight restrictions. Engineering advancements are a greatly improved gearshift, twin air-operated windshield wipers and choice of muffler mounting.

## 88 Models for 1957

Eighty-eight models on 22 different wheelbases make up **Chevrolet's** 1957 trucks. They range from pickups to tandems. New engines are a 175-hp Super Taskmaster V-8, a 160-hp V-8 Taskmaster, and a 210-hp Super Loadmaster.

Teamed with the new engines are eight truck transmissions, including an automatic drive for most models. Optional on bigger trucks is six-speed Powermatic transmission with a built-in retarding device that gives down-hill speed control without brakes.

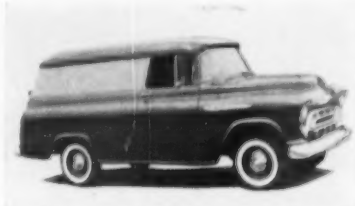
Lightweight models for additional payload advantages have been announced by **Autocar Division** of **The White Motor Co.** Developed for West Coast use, these trucks are now available for a variety of heavy-duty applications with either axle-forward or axle-back models.



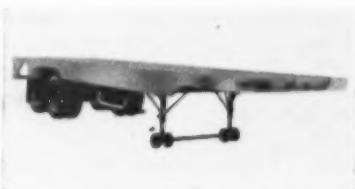
The heaviest-duty truck in company history is added to **Studebaker's** line



GMC's new diesel tandem-axle truck performs on highways or off-the road



**Chevrolet's** 1957 truck line features advances in safety and durability



New **Trailmobile** flat-bed is designed for uniformly distributed floor loads

Weight saving was accomplished principally by use of aluminum. It is used in the driver's cab, parts of the engine, the chassis crossmembers, transmission case and cover, fuel tank, front and rear axle hubs, hood and front bumper. Even the wheels are forged aluminum.

Gvw ranges from 33,000-50,000 lb. Gcw is 76,800 lb. Horsepower is from 165 to 250.\*

By P. J. Haughian, Treasurer

Middle Atlantic Transportation Co.  
New Britain, Conn.

**A**Doption of leased wire teletype and Integrated Data Processing (see DA, Nov. 1955, p. 40) has brought increased efficiency, removal of pressures, reduction of errors, and customer approval to Middle Atlantic Transportation Co.

Where previously drivers waited one to three hours after loading for manifest sheets and freight bills, they now can take off in ten minutes. Freight bills, prepared the following day, arrive at destination terminals before the trucks.

The new system of leased teletype circuits connects 13 terminals, each with a message center where freight bills are prepared. Bills of lading are turned over to the teletype operators each morning.

Working from a single-copy freight bill, the operator fills out the form as before. The only additional work is the typewritten entry of a number of symbols which automatically set a complete revenue accounting system in motion. These symbols, incorporated in a five-channel tape created simultaneously with the freight bill, serve as control impulses to activate the tape-to-card punch which produces revenue accounting cards.

The operator puts the tape for a trailer load into the teletype transmitter and sends it to the switching center in New Britain. Most incoming traffic at New Britain is received on five-channel tape with message printed on it.

Transmitting equipment at New Britain enables the staff to re-send message to any terminal or group of terminals. Activity runs to an average of 250,000 words per day. This takes in freight bills for approximately 70 outbound trailer, 12 os&d reports, 12 replies to claim reports, more than 500 telegraphic message of every description, and 12 dispatch reports.

The speed at which information on overs, shorts, and damages is transmitted to terminals means that most claims can be settled four to six days faster.

## Teletype Integrates Processing of Data

**Faster truck departures, error reductions, increased efficiency are results of company operation via leased wire teletype and IDP**

Most of the bill transmission begins at 5 pm. Terminals are advised to prepare for freight bills and place eight-part freight bill sets in the teletypes. Activated by tape, they make exact reproductions of the original bills. The eight copies are all the paper necessary to complete the shipment.

Copies are used as follows:

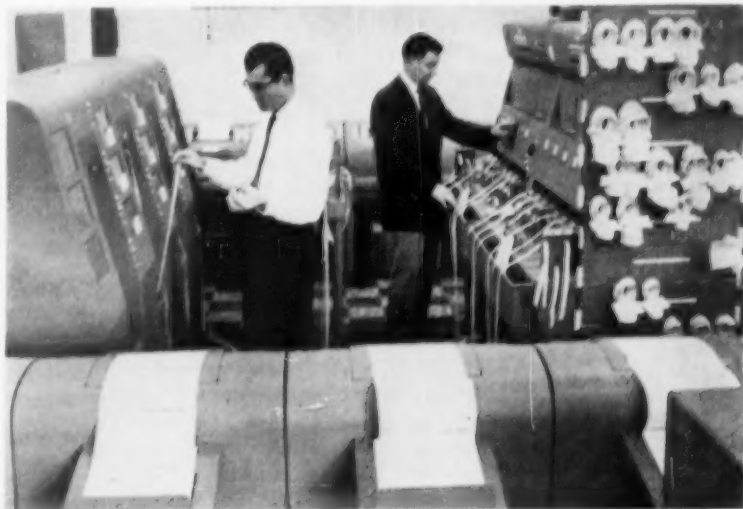
The first three make up the billing set. Copy four is marked with unloading and delivery instructions for the dock. Fifth and sixth copies are delivery receipt and

consignee's memo. Seventh copies, kept in trailer groupings, replace the manifest, a procedure which saves about 200 working hours per week throughout the system. Copy eight is used for tracing shipments.

Originals used to send bills are saved for accounting. Tapes are put through a tape-to-card punch to create cards needed for operating and government reports.

The night's work is audited each morning in the home office by a staff of rate specialists.\*

At the New Britain switching center, messages received on five-channel tape can be re-sent to other terminals. Teletypes receive bills on Standard Register forms



The distribution center consists of seven shipping warehouses, connected by a 1780-ft long, enclosed truck dock. The truck dock can accommodate 132 trucks simultaneously. A rail dock can accommodate 54 box cars simultaneously. The center includes 16 acres under roof



## Success in Single-Story

**W**HEN Safeway Stores' new Distribution Center at Landover, Md., went into full operation in 1952, supplying approximately 185 stores in Washington, D. C., Maryland, and Virginia, it marked for the company a new approach to food distribution.

From multi-floor warehouses scattered throughout the Washington area, Safeway concentrated its operation in a one-floor center with 16 acres of warehouse under roof. Largest of the seven shipping warehouses is the grocery warehouse—288,813 sq ft.

Located on a site of about 48 acres with an enclosed hard-surfaced area of 470,000 sq ft, the new distribution center has 5,700 ft of rails fanning out into nine branches that connect with the Pennsylvania Railroad main line. The center has facilities for unloading 54 box cars at one time.

The new operation means faster, more efficient movement of food-stuffs mechanically through less congested areas with greater permanent efficiency.

### Distribution center supplies 185 stores from 7 specialized

The warehouses are connected by a continuous enclosed dock 1,780-ft long with facilities for loading 132 trucks at one time. When not used for loading purposes, the stalls become a protected storage area for idle trucks. Doors to the truck area all are electrically controlled from either the warehouse dock or the door.

#### Construction Features

Buildings are constructed of brick, cinder block, and interior glazed tile, with an insulation system of porous cork.

One-hundred-and-ninety-seven gas unit heaters are used for all trucking areas and warehouses which are not refrigerated. A total of 1,500 fluorescent light fixtures are used with an additional 42 large floodlights located outside.

Each refrigerated warehouse

has its own cooling system. There is equipment with 810 hp which produces 553 tons of refrigeration, ranging from 20 deg below zero in the hard freeze room in the meat warehouse to 50 deg F in the produce warehouse.

Each warehouse has its own battery-charging area for materials handling equipment. The largest is in the grocery warehouse, and covers an area of 40 x 80 ft. Batteries for 17 fork trucks, 12 tractors, and 14-walkie-type pallet trucks are charged in this area at one time.

The engineering and maintenance crew is made up of 17 men who keep all mechanical refrigeration in operating condition and do general maintenance work.

Mechanical equipment is used whenever it facilitates fast, effi-



cient handling of a job. For example, a 10-minute operation of a mechanical scrubbing machine keeps the produce dock in safe, clean condition. Manually it took approximately 30 minutes.

#### Pallet Sizes

Safeway has standardized on a 40 x 48-in. pallet in all warehouses except meat and frozen foods. No pallets are used in the meat warehouse. The frozen foods warehouse uses a 32 x 40-in. pallet.

The grocery warehouse space is subdivided into surplus storage area, assembly area, and primary area of fast moving and in-season items. Pallets of merchandise are stacked up to 132 in. high by fork-lift trucks in surplus storage.

The warehouse crews record and rotate all items in accordance with date of receipt. Upon receiving an item, it is dated and coded by card system and the merchandise marked with code number and date.

It is placed in the storage area wherever space is available, Safeway making no attempt to concentrate an item in one area. Withdrawals are determined by card with the oldest date. Location is given on the card. The inventory card is posted with the withdrawal, and returned to the receiving office file.

This procedure of rotating merchandise according to date of receipt has cut spoilage. It is used in all warehouses at the center.

The use of any available space for any merchandise is a space and time-saver, avoiding shifting of merchandise to keep similar items together.

Safeway unloads trucks placing merchandise in a temporary storage area. Warehouse employees next move it to either the selection line or the regular surplus storage area. Experience has shown the use of steel pallet racks for slow-moving merchandise in the selection line proves to be a space saver. Nine-ft high with 8-ft up-rights at 4½-ft intervals, the pallet racks permit four-pallet-load stacking.

#### Primary Line

The primary line for fast-moving, in-season items is located adjacent to the loading docks. From this line comes about 30-35 per cent of the total tonnage shipped from the warehouse.

The produce warehouse is fully air-conditioned. A constant 50-deg temperature is maintained. In addition there are 10 other coolers, all 30 x 60-ft, which are temperature and humidity controlled.

*(Please Turn Page)*

## Food Warehousing

warehouses with combined area of 16 acres under roof

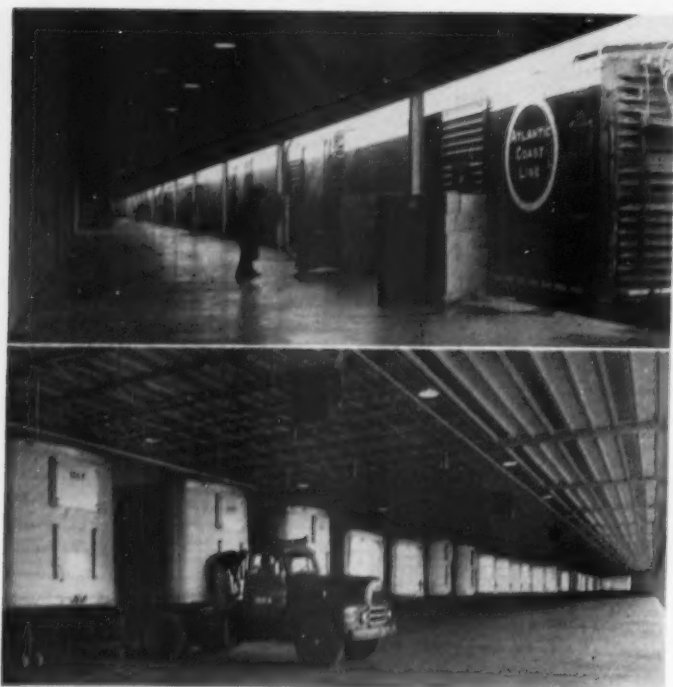


Left, top: Orders for distant stores are collected from other buildings at a mixed load warehouse

Left, bottom: Air-conditioning keeps temperatures at 50 deg F. in the produce warehouse

Below: Temperatures are carefully-controlled in eight rooms where the bananas are ripened





Top: Rail cars are brought to the center's loading docks over three spurs

Bottom: There are 132 truck stalls on 1,780-ft. dock connecting buildings

## ... Food Warehousing

(Continued from Preceding Page)

These coolers vary in temperature from 37-45-deg. After all orders have been filled, all merchandise requiring a temperature of below 50 is put back into the coolers and remains there until the next day when the selection line is set up for order filling.

There are eight large banana ripening rooms with capacity of 16 carloads. A superintendent oversees all the ripening and designates when fruit in each room is ready for cutting. The banana area has three power-operated revolving cutting tables.

At Landover, Safeway has introduced another time-saver in a mixed-loads warehouse, which is used as an assembly point for orders for distant stores. The mixed-loads warehouse is operated under the management of the produce warehouse. Prior to the start of

this assembly operation, it was necessary for trucks to load at a number of warehouses to pick up a complete load. Now merchandise is brought to the mixed loads warehouse from the meat, produce, and milk products warehouses on trains and placed in bins designated for individual outlying stores. The trucks then are loaded from this one dock. Four or five hours is saved each day as a result of this operation.

### Milk Warehouse

The milk products warehouse stocks all items requiring refrigeration which previously were stocked in the grocery warehouse. They include cheese, oleomargarine, butter, shortening, lard, and eggs.

At the rear of the warehouse there are two rooms devoted to

the prepackaging of various types of cheese. By doing this on a production line basis at the warehouse, considerable time has been saved in the retail stores.

The frozen foods warehouse is made up of two areas. The larger is used for storage and selection line. Temperatures in this area range from 6-10 deg below zero.

The smaller is for assembling and packing. Temperatures here are maintained at 5 deg.

All persons working in the frozen foods warehouse wear Arctic clothing and are given 15-minute breaks each hour for hot coffee supplied by the company.

The meat warehouse, second largest of the group with 140,000 sq ft of space, has more than two miles of overhead railing. Here, a print weight scale gives greater accuracy in recording weight of sides of beef, lamb, and veal. A card and tape are printed simultaneously with weight, and weight checked and noted by an attendant through a magnifying glass inset. The printed weight avoids mistakes that frequently occurred when an employe checked weight on older scales. After recording weight on a tally sheet, both records of card and tape go to the accounting office.

### Overhead Rails

After the meat has been weighed it continues on the overhead rails into the deflanking room, a large aging cooler, and then to the cutting area. In a humidity controlled aging cooler with 24,600 sq ft of floor space, some 6,000 quarters of beef and lamb hang from overhead rails and age at a temperature of 33 deg. Having been marked with a tag noting date of slaughter, each variety of meat is held to proper aging time for flavor and tenderness.

In production line arrangement in the cutting area, meat moves on an overhead rail adjacent to the cutting tables. With two men operating a band saw, as many as 80 quarters of beef can be cut in 45 minutes. The meat warehouse also has separate rooms set aside for grinding beef and making corned beef.

(Please Turn to Page 91)

# Increasing Employee Satisfaction

A SATISFIED worker is a good worker. His productive effort bears good results. He is genial and cooperative and gets along with his fellow workers and management. His accident ratio is reduced to a small figure. He is the ideal type of employee management wants on its payroll.

Good working conditions, pay, and opportunity for advancement are recognized standards of employee satisfaction. Management can hardly expect the cooperation from its employees that it seeks without these three being present.

There is much more to insurance of job satisfaction on the part of any employee with the company. The three foregoing factors provide the foundation upon which the program can be built. To this must be added as many further steps as can be taken from time to time in a continuing program which, however, never approaches the point of pampering.

## Employee Education

Much of a program is nothing more than educating employees to their position within the company, to the company's aims, to its place in society, and to a belief that they are working for the best possible firm—regardless of what troublemakers or agitators may tell them.

Employees well educated in the company and its policies, in their role with the company, their responsibilities to the company and its customers, and the company's responsibilities to them always are much more satisfied at their jobs than those where management works on a program embracing only the three main essentials mentioned above.

Here are a number of points which should be covered by the

Good working conditions, pay, and opportunity for advancement provide a foundation for building a program to insure employee satisfaction

By Ernest W. Fair

program to increase employee satisfaction with their jobs, and thereby increase the value of every man and woman to the company organization.

**Complete Knowledge of Company Rules and Regulations** (including the why of each). Often a rule stated in cold type leaves much to be understood by the employee. He or she normally will follow that rule, but never with the enthusiasm present when they fully and completely understand the reasons why the rule has been set up.

No regulation of any kind, no matter how small, should be set down by management without an explanation of the need for that rule. We cannot take it for granted that every employee will understand without reason or that reasoning will provide the proper interpretation. And the "obey-it-or-else" system has long vanished from the American scene.

**Understanding of Company Importance** (not only in the business world but in the community life and social structure of our society). Our enthusiasm always is greatest on those projects which we feel are of most importance. The man with instinctive pride in the company for which he works is a goodwill ambassador one cannot buy. He is the most effective

weapon against general public misunderstanding. Satisfaction with one's job and pride in that job go hand in hand.

**Faith in His Own Importance to the Company.** The employee who feels that he or she is just another faceless cog in the company machine, and can be replaced at the whim of some unknown higher executive at anytime, has little faith or confidence in his job or the company. Each employee must feel that he as an individual is important to the company management. He must feel that the company appreciates his good efforts and that he is more than just a social security number to the firm.

Any executive can fully appreciate the importance of this factor by considering his own position in the same light. He knows that he works harder at his job when executives higher up have given him evidence of his importance to the company.

**Understanding of Company Problems** should go far beyond the executive circle. In those organizations which make it a policy through meetings, company house organs and other methods to tell even the lowest worker about the company problems there always is much more accomplished with less effort.

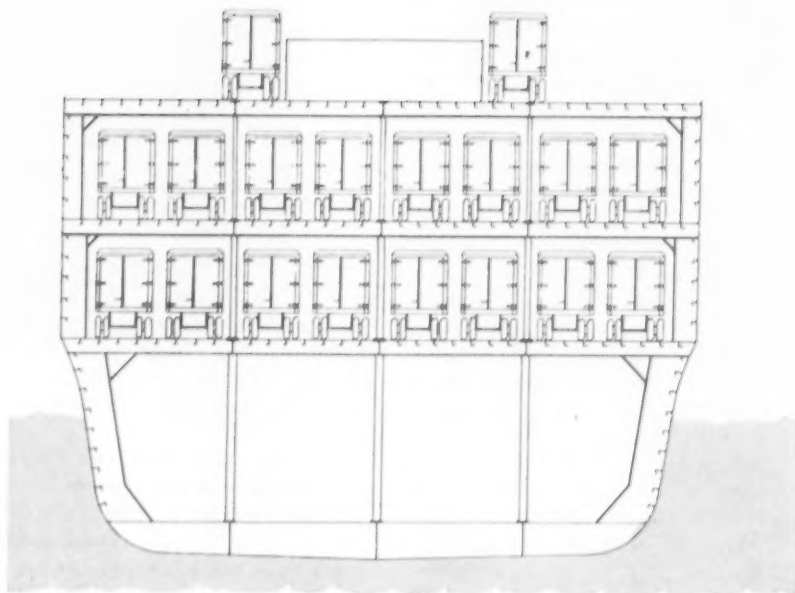
(Please Turn to Page 32)

## ***Analysis of Failures—Part II***

By Wayne W. Light  
Transportation Consultant

# **What's Wrong With**

Analyses of past failures show nine pitfalls of concept. Author also points out some errors of ship design and service; suggests future operations will adopt the principle of trailer-container shipping



Stern cross section of a ship designed for use in transporting fully loaded highway trailers in coastal trade (See DA, Jan., 1956, p. 35). In this type ship, all trailers are loaded parallel to the vessel's keel

**C**ARRYING truck trailers by ship over our domestic waterways differentiates itself from all other common carrier activities. It is and must be a different kind of common carrier. It must be a common carrier for the transport of truck trailers and/or containers by concurrence in through rate and route arrangements with common carrier truck trailer operators.

### **Singleness of Purpose**

Such an activity must be dedicated, with Singleness Of Purpose, to the transport of truck trailers. The Service Must Be Tailored To Meet the Needs of the Truck Trailer Economy, and not the traditional ship and waterway concepts.

The ship service is sandwiched between pick-up and distribution, and is an integral part of the truck trailer movement of the whole. It

cannot be merely a common carrier—ferry-like—service, because common carrier truck trailer operators would gain only a slightly lower transport cost, at the sacrifice of the dependability and economy potential of their own services.

To be a stabilized success, the concept must be based on the conversion of waterways into water highways to be used as a substitute highway or route, with the same dependability for availability for ship space as overland highways, and operate in accordance with the philosophy of total transportation. (For a brief description of total transportation

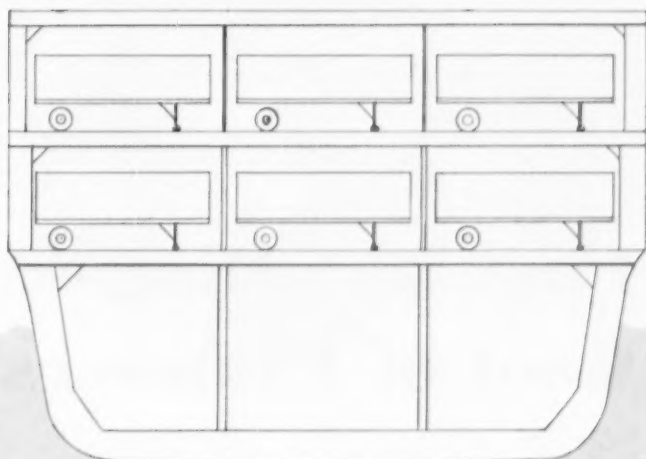
see "Water Highways Spur Total Transportation," DA, Oct., 1956, p. 37.)

The motor truck is a recognized, inescapable and indispensable part of the total transportation and distribution system. It handles more goods from pick-up, through transport and final delivery than all the other forms of transportation combined. It is the only type of carrier that, if necessary, could function independently of all others, and/or feed and sustain the functions of all other carriers.

Because of its distinctive form of service and its unique flexibility for facilitating interpenetration of traffic for a system-like to-



# Trailerships?



Simplified drawing of proposed trailership with trailers loaded athwartship, or at right angles to the keel. Trailers are loaded through side ports. Drawings merely illustrate the principle involved

tal operation, the truck trailer economy presents a significant opportunity to recreate the waterways into water highways.

## Reasons for Past Failures

It seems incredible that the mistakes of past efforts have not been used as stepping stones to an enlightened concept of both things to do and things not to do in connection with the use of ships to transport truck trailers. The trouble is, of course, that such services had not been planned for the creation of a substitute route for truck trailers. The emphasis has been on the economy and profit of the ship rather than an inte-

grated service for truck trailers—a typical traffic concept.

Maybe this is because the mistakes have not been recognized and studied so as to form a clear picture of how ineffective are the proposals that were, and are, based on segmental traffic ideas. The failure of all past efforts is the net result of the absence of total service planning.

It is difficult to be weaned away from the traditional traffic thinking just by being told that it is wrong, and that new concepts should be employed. The description of fallacious concepts heretofore employed—pitfalls which have snared similar proposals and

efforts during the past 20 years—will help to illustrate and confirm the soundness of principles which are necessary to a successful operation.

These pitfalls always have resulted in frustrating confusion of competitive rights, which were ruinous to an adequate service in behalf of industrial needs and the consumer economy. If it had not been for these pitfalls, such services would be covering every sector of our coast line and inland waterways—wherever truck trailer operations abound. Their acceptance would have been based on the great need for transport facilities, the availability of water highways, and the profit inherent in such properly conceived services.

## The Pitfalls

Among the major fallacies of concept—pitfalls—are:

1. Operation merely as a detached form of ferry-like service.
2. Operation for privately owned trailers—with resultant labor dissent.
3. Operation as a common carrier—taking all trailers in the manner of general cargo.
4. Operation as a ship transport service—designed for ships' operating economy rather than an integrated service.
5. Operation without exclusive dedication to truck trailer transport.
6. Operation in belief that the differential in transport costs is, or should be, the optimum advantage inducement to trailer operators.
7. Untenable traditional approaches to the ICC and Public Utilities Commissions.
8. Non-employment of principles of interpenetration of traffic for effecting total transportation.
9. Emphasis placed on ideas for saving labor, loading and unloading costs, and development of speed and large capacity—without first determining upon a sound operating philosophy.

## Traffic Concept Examples

A recent announcement presents an example of traffic instead of  
(Please Turn to Page 96)

**F**AST handling of freight, convenience in operation, and welfare of personnel were chief aims of Adley Express Co. in planning a half-million dollar truck terminal for Springfield, Mass.

In a move to eliminate future trouble at the planning stage, the company has surrounded the loading docks with two acres of paved surface. Docks are approached from either side. Freight from out of state is unloaded on one side, and in its processing flows across the dock where it is loaded for city-wide distribution.

#### Adjustable Docks

The terminal is equipped with 18 hydraulic adjustable docks, nine on each side of the loading platform. A source of delay in loading and unloading is eliminated by keeping the docks in up position. A truck backs into position and pushbutton control sends the platform down onto the tail gate.

When the truck pulls out, the platform continues its downward course until it reaches a 45 deg angle. At this point, a switch automatically is tripped and the platform returns to the up position.

#### Pallets Numbered

All freight is unloaded from the truck onto 300 pre-numbered pallets. Way bills for a load are spread on a desk and, as the freight comes off the truck, the number of the pallet is marked on the way bill.

Should any question arise on the location of a shipment, a glance at the way bill will indicate its pallet number and thus its location.

Freight is stacked on the loading dock in 6-ft wide rows, allowing 9-ft passageways for maneuvering of tow trucks. Pallets are set diagonally to allow the sighting of their numbers from the end

of the lane. When a load is to be made up, the necessary way bills are assembled, freight is picked up by the pallet number and loaded.

#### Inter-com System

The link—and thus the trouble eliminator—between dock activity, paperwork, inquiries, and overall direction is an inter-com system connecting 17 stations. The man who sits behind the glass is in complete control and can reach points as remote as the boiler room, where the air compressor for the hydraulic system is located.

Nor does his control stop there.



Working in the dispatcher's office the terminal manager uses a direct telephone line to the other Adley terminals

## Fast Handling— Goal of Planners

Adjustable docks, inter-com system, and teletype speed

In addition to a local outside telephone, he has a direct telephone line to every other Adley terminal, located up and down the East Coast. There also is a teletype machine connecting all terminals.

These different means of communication do not overlap or cause confusion, they are used, rather, to complement one another.

#### OS&D Check

At 2 pm daily every terminal lists its OS&D's through teletype. A quick check with the loading dock via the inter-com and a few words through the direct line to some other terminal usually ac-



Pallets are stacked diagonally to permit easier sighting of numbers

Pallet numbers are recorded on way bills to speed locating



handling of shipments through a new express terminal



Adjustable docks automatically return to up position. Thus ramming by truck is avoided

Electric pumps at fueling station are metered to keep a record of amount used



By K. A. Andersen

counts for the stray piece of freight.

Nine out of ten times, according to the firm, Adley personnel can unravel a mystery in a matter of minutes. It benefits the customer, too. To a manufacturer looking for a shipment vital to his operation, it's a matter of keeping an assembly line going, being able to plan if he knows when to expect the shipment, or shutting down the line and putting men out of work because he can't get a definite answer. Often times, Adley can give him his answer while he's still on the local phone.

Since all charge accounts are handled by the main office in New

Haven and 75 per cent of the Springfield accounts are charge, rate and billing inquiries could be hard to answer. Adding to the communications problem is the fact that all insurance claims over \$200 are handled by a Hartford insurance company. The Adley communication system permits billing inquiries to be handled either at Springfield or New Haven.

#### Two Procedures

If the query comes from New Haven, it is cleared through that office. If the customer calls and it can't be straightened out, Springfield calls accounts receivable in

the New Haven office.

In the drive for efficiency, employee and driver comfort has not been forgotten. There is an air conditioned room about 35 x 75 ft equipped with lockers, benches and tables. A shower room and separate wash room are available. Future plans call for a television set and a pool table.

The Springfield plan for eliminating trouble before it occurs gave the terminal the lowest OS&D rate in the Adley system during 12 of the first 13 periods of 1955, .212.

The whole Adley system ratio is down to .430, compared to the national average of .500. •

# Philosophies and Methods

Human development is more a philosophy of leadership than a system of forms and procedures. Objectives of program must be thought out

**E**FFECTIVE human development is more a philosophy of leadership than a system of forms and procedures. Yet, many companies have adopted and adapted other companies' trappings without formulating necessary, concomitant philosophy.

Many companies which are attempting to do something formal about the development of their personnel often fail to define or even think-through the objectives of whatever they are setting out to do. A great many even formally-defined and stated objectives or purposes of developmental activities are inadequate or severely limited in scope. A little time spent in clarifying such objectives and in making them generally known throughout the organization would be well justified by the larger returns.

**By Joseph M. Trickett**

*Coordinator of Management Development*

*Food Machinery and Chemical Corp.  
San Jose, California*

There are two elemental types of objectives in human development which must be recognized. These are interrelated, yet they do require some difference in approach and consideration:

First, are the personal objectives of the individuals concerned—these, of course, will be many and varied; yet, throughout will run such basic requisites as the need to contribute and participate, the desire to expand or to grow, the hopes and aspirations for broader horizons, and each individual's need to demonstrate and gain recognition for personal worth and capabilities.

Second, are the organizational objectives—these, too, will vary, and yet they will reflect such factors as the organization's need to grow, its need to continue in business, its need for constant improvement of individual performance, and its need for a continuing supply of qualified and even "dedicated" people, and especially management people.

Therefore, at Food Machinery and Chemical Corp. the two basic objectives shown in the box below have been set.

## Sound Management

There must be a sound philosophy of management behind such objectives if they are to be meaningful. Our philosophy in this connection is based upon certain beliefs. Curtis H. Gager, in his "Progressive Policies for Busi-

## Approaching a People-Building Program

### Objectives

1. To help each individual to perform his present responsibilities as easily, as satisfyingly, and as purposefully as possible and to permit him to prepare himself for the possibility of larger responsibilities.

2. To help the organization by seeking to increase the effectiveness of performance of each job through a broadening of the horizons and capacities of the individuals involved and to identify qualified replacements.

### Methods

1. A broad statement of policy to crystallize the philosophy and synthesize objectives.

2. Procedures and tools to implement this policy.

3. Management participation.

4. Provision for application throughout the organization.

5. Identification and use of developmental resources.

6. Almost unlimited subject-matter considerations.

7. Provision for continuous, long-term action.

### Tools

1. Some means to inventory, periodically, individual talents, experiences and aspirations.

2. A way to identify, select and place potential management talent within the organization.

3. Some means to appraise, individually, current results, performance and prospects.

4. Some means to record each individual's developmental needs and progress, both as to his present performance and his future prospects.



# of Building People

ness Leadership," has emphasized the importance of such statements of management philosophy:

"There is no escaping the need for better leadership, founded on a considered and unmistakable philosophy of management. Ideally, in every organization, it should be stated in precise terms for everyone to see.

"The employee especially wants to know—needs to feel—that his management has some sort of code against which to square its policy and its actions. He is interested in his company's aims—particularly as they will affect him. It seems fair to say that the lack of a sound and understandable philosophy disclosing an organization's 'beliefs' is a source of employee frustration, disillusionment, and discontent."

Although the following statements of beliefs are not in any sense unique, these do characterize the particular approach of Food Machinery and Chemical Corp.:

1. The company believes it must have a persuasive philosophy of personal improvement; a philosophy which says that by developing the people who comprise our organization, we develop our organization; that to maintain a growth corporation, we must have growth-minded people.

2. All development is "man development," i.e., that each man presents a separate and different developmental problem, that his strengths and weaknesses, hopes and aspirations are individual characteristics which need to be recognized and catered to if such development is to be genuinely effective.

3. Development or growth must come from within each individual—that he must want to change. Of course, to change or develop purposefully, the individual must recognize and accept those areas in

his performance or attitude that require change or improvement.

4. Development is primarily a personal responsibility of each individual—that the basic effort for growth or development rests with the individual.

5. Each man's boss creates a "climate" which either fosters or hampers personal development.

6. The company has a definite responsibility to help each boss in the development of his subordinates—by providing some usable tools and techniques plus continuing advice and direction. But, these must not become ends in themselves.

7. Action is the thing; not specific replacement charts, not lists of "promising young men," not detailed psychological procedures. By "action" we mean developmental action and planning with each individual concerned—a working out of a specific building program for an individual.

## Philosophy at Work

Even the best-crystallized beliefs and stated philosophy will not, in themselves, develop or build people. The methods listed in the box at left are, therefore, the steps that an organization must take if it is really to build the people who compose it.

This is not the place to discuss the value, if any, of written policy statements. The possibilities of over-regimentation and over-stratification which can come from a too-rigid definition and a too-rigid adherence to company policy can be argued. Nonetheless, here is a potential policy statement which might underlie a company's developmental activities:

"The growth and development of  
(Please Turn to Page 93)

## Developmental Resources Which Are Available

### Within the Company

1. Regular and continuous coaching by superior
2. Periodic developmental planning sessions with superior (based on Performance Reviews)
3. Planned experience on different jobs
4. Guided experience on present job
5. "Managing-upward" experience
6. Planned rotation in other jobs
7. Committee assignments
8. Planned visits to company offices or plants
9. Special work assignments
10. Planned staff meetings
11. Administrative assistant positions
12. Temporary understudy positions
13. Task-force assignments

### Outside the Company

1. Special evening classes, institutes
2. Selected workshops and seminars
3. Membership in technical societies and attendance at special meetings
4. University management programs
5. Community service experience
6. Professional medical advice
7. Professional psychological advice

### Either In or Out of Company

1. Assigned or directed reading
2. Counselling by other than superior
3. Public speaking training and experience
4. Chairmanship and group leadership training and experience
5. Planned visits to other companies
6. Creative writing experience
7. Broad, general reading
8. Depth-interviewing for self-appraisal and analysis

# Know Your "MARKS"?

How good are your powers of visual recognition? Shown below are 12 familiar common carrier trade marks. Most of us have seen each of these marks literally hundreds of times—yet how well do we know them?

Most of the marks have been altered in some respect—some more than others. The object of this quiz is to determine which have been changed, and in what manner. Then try the quiz on your friends.



1



2



3



4



5



6



7



8



9



10



11



12

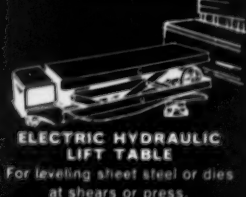
List Your Answers Below (No Cheating, Please)

1 \_\_\_\_\_  
2 \_\_\_\_\_  
3 \_\_\_\_\_  
4 \_\_\_\_\_

5 \_\_\_\_\_  
6 \_\_\_\_\_  
7 \_\_\_\_\_  
8 \_\_\_\_\_

9 \_\_\_\_\_  
10 \_\_\_\_\_  
11 \_\_\_\_\_  
12 \_\_\_\_\_

(Please Turn to Page 100 for Unaltered Trade Marks)



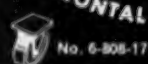
EASY VERTICAL LIFTING



SMOOTH HORIZONTAL ROLLING



CASTERS



Save \$1.00 Per Sq. Ft. Per Year

## COLSON Narrow Aisle TIERING TRUCK

Now a Handler that stacks 35x50" skids in 6½-ft. aisle; conventional fork trucks take approximately 12-ft. aisle.



Is indoor storage space now costing you as much as \$1.00 total per sq. ft. per year? Gain 40% of your 10 to 12 ft. stacking aisles used by your fork truck—put lower-cost Colson Handler Tiering Trucks to work for you.

Colson Handlers work faster because of straight engine power with All-Hydraulic Drive—oil transmits power for lifting, moving, braking.

Check these exclusive features:

- All-Hydraulic Drive
- No 700-lb. batteries, no charger
- Full power 24 hours a day
- No clutch, no transmission
- No friction brakes
- 0-4 mph travel speed

Capacities at 24" load centers:

2000-lb. and 4000-lb. Models, Straddle Types. For pallets, skids. Lifts to 15 ft.

1000-lb. "Fork Lifter", Counterbalanced. For pallets, finished products. 10" wheels, tilting mast, 42" turn radius.

Write or phone for recommendation by specialists

**The Colson Corporation • General Offices, Elyria, Ohio**

Factories in Elyria, Boston, Toronto

Circle No. 118 on Card, Facing Page 55, for more information



# REDUCE CAR ICING TIME UP TO 50%

**New LINK-BELT Model 55 dock-type car icer mechanizes icing operations ... provides new economies and efficiencies**

**ONE MAN** controls all operations, including: machine travel, size of ice, raising and lowering of pick-up conveyor and discharge chutes, positioning of flap gate to feed ice to desired roof hatch, start and stop of dock conveyor.



## MECHANIZE YOUR SALTING, TOO!

Link-Belt mechanical salter speeds this operation — eliminates need for hand carts and salt bags. Unit is designed either for coupling to car icer or for independent operation.

**ARE** outdated icing methods bogging down your dock's efficiency? If so, it's time to mechanize! The Link-Belt Dock-Type Car Icer:

- **Speeds icing.** Permits quicker train departure.
- **Reduces operating costs and dock maintenance.**
- **Eliminates dock congestion.** No more hand carts, salt bags or ice skids.

This mechanical icer is adaptable to most existing docks—services cars of all heights with hatch covers of all types. For full particulars, call your nearby Link-Belt office. Or write for Folder 2643.

14,278

# LINK-BELT

ICING EQUIPMENT

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# DA Materials Handling Primer—XIV

## 1-B-4. Trackless Trains

By D. O. HAYNES

DA Materials Handling Consultant

### DEVELOPMENT OF THE TRACKLESS TRAIN

The early part of the present century brought forth more revolutionary changes in materials handling methods than any like period in history.

One of the outstanding advances was the development of the trackless train. In 1913, the principles of railroad operation first were applied to automotive equipment, as shown in Fig. 1. The motive unit, separate from the carriers, became freed of fixed routes. Maximum utilization of motive power is realized by employing the available automotive power for pulling instead of carrying. Further, the motive unit now is kept almost continuously active. It does not stand idle while loading and unloading operations are being performed.

Now, electronics have entered the field and we have tractors which can be controlled remotely by an operator. Another type operates by following a guide-wire strung along the ceil-

ing. Both operations are covered in this chapter.

The tractor-trailer train has been compared to a flexible-belt conveyor. Actually, this system of handling is

more like the towing conveyors. After we have discussed the various components of trackless trains, this method of transportation will be compared with other related systems.

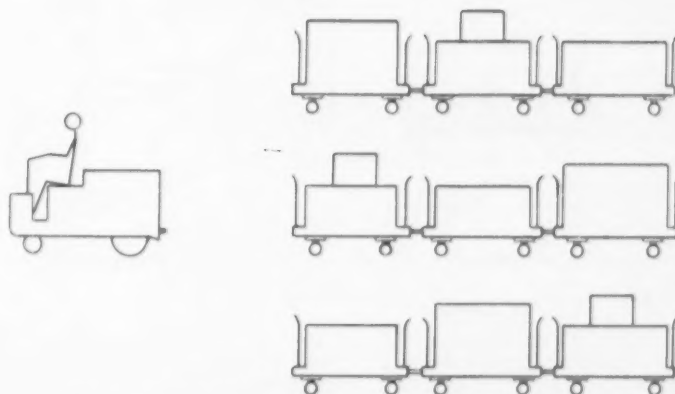


FIG. 1—ONE POWER UNIT SERVES SEVERAL TRAINS

### INDUSTRIAL TRACTORS

Many different kinds of machines are called tractors. No one can take exception to this because the term can be applied correctly to any machine which is used for pulling a load. We have seen, for example, that some "walkies" carry the label of tractors. In addition, there are those heavy-duty, crawler-mounted machines

familiar in earth moving and construction operations. These too, are tractors, but these are not the types we are about to consider—industrial tractors, utilized in moving one or more trailers.

All tractors falling within our classification are wheel mounted. However, a variety of wheels and tires are

utilized. In many jobs, the steering wheels differ in size and character from the driving wheels. Some tractors may be equipped with pressed-on molded tires, others with some type of semi-pneumatic or pneumatic tires. In other models all the wheels are the same and all similarly tired.

### DRAWBAR PULL

Tractors for train operations are powered either by storage batteries or by gasoline engines. The choice, as usual in such situations, depends upon operating conditions. Since a tractor is a pulling machine, the most important thing to know is how much it is capable of pulling. Tractors usually are rated according to their drawbar pull. This is a figure which expresses in pounds the pulling ability of a tractor before its wheels start slipping.

Drawbar pull corresponds to tractive effort—which will be discussed in a later chapter, in connection with the calculations involved in determining required battery capacity for tractor-trailer train operations. It will

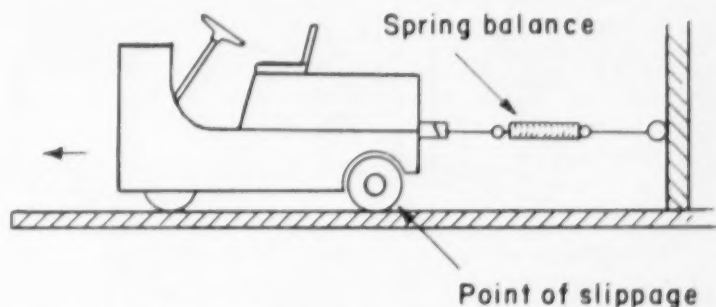
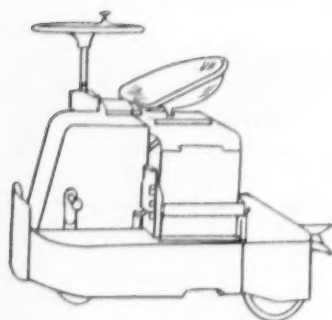


FIG. 2—SIMPLE DYNAMOMETER TO DETERMINE DRAWBAR PULL

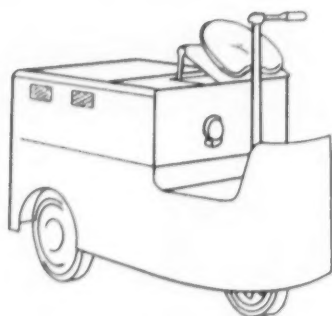
be explained that the tractive resistance in pounds per ton of gross weight of tractor and all loads pulled is between 30 and 50 lb when operating over a smooth, level, concrete run-

way with anti-friction bearings in the rolling equipment. A tractive resistance of 50 lb per ton of gross weight is equivalent to 25 lb per 1000 lb of gross weight.

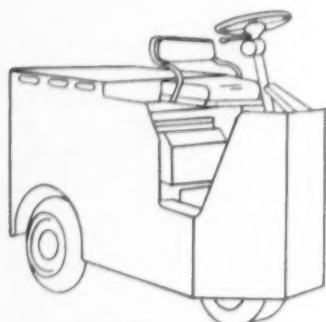
## DIFFERENT TYPES OF RUNNING GEAR



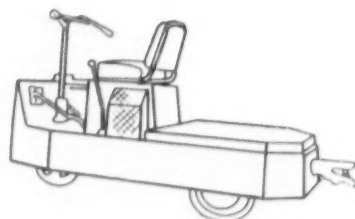
ELECTRIC  
(Drawbar pull 1000 lb)



ELECTRIC  
(Drawbar pull 1000 lb)



ELECTRIC  
TWIN-STEER WHEELS  
(Drawbar pull 2500 lb)

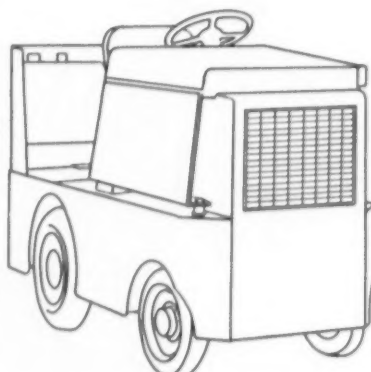


GASOLINE  
(Drawbar pull 1200 lb)

FIG. 3—THREE-POINT CONTACT TRACTORS



ELECTRIC  
(Drawbar pull 2500 lb)



GASOLINE  
(Drawbar pull 3000 lb)

FIG. 4—FOUR-POINT CONTACT TRACTORS

There are a number of minor details in the different kinds of tractors on the market. Besides the source of power which motivates the machine, the steering may be by tiller or by conventional automotive steering wheel. The really important factor in the different kinds of tractors is the running gear. There are two types—those with three- and those with four-point contact.

### THREE-POINT CONTACT

The designation three-point contact does not indicate the number of wheels in the running gear of a tractor. It means that the wheels are arranged in the form of a triangle, as shown in Fig. 3. In many machines dual wheels are utilized as steering wheels.

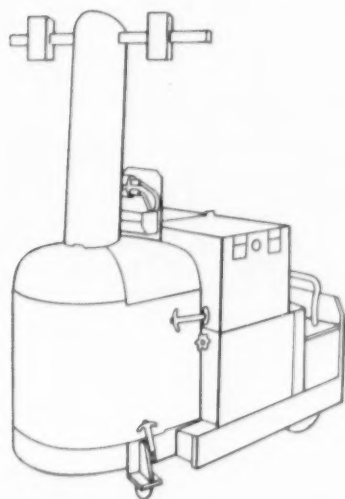
In general, this variety of tractor is lighter and has less pulling power than four-wheel models. However, it is extremely maneuverable. The front wheel or dual wheels do the steering. Since they can be turned nearly 90 deg to the path of travel, three-point contact tractors can turn in a radius practically the same as the wheelbase.

### FOUR-POINT CONTACT

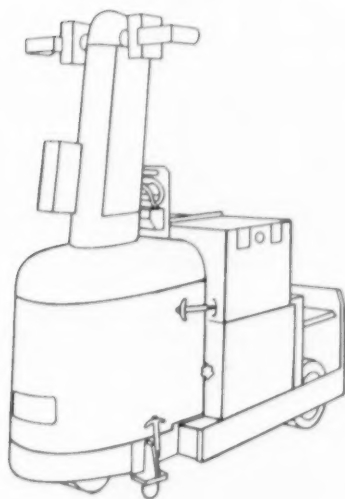
The quadrangular arrangement of the wheels in four-point contact, shown in Fig. 4, provides inherently greater stability than is secured with three-point contact. However, the advantage is gained at the expense of turning radius. Two widely spaced steering wheels cannot be cramped as closely as one or two centrally located steering wheels. In many operations this is not a serious consideration because heavier tractors generally are engaged in operations where the turning radius need not be exceptionally short.

The important aspect of four-point tractors are the wheels. The prospective user has an almost infinite variety to choose from according to his operating requirements. In some models the drive wheels have been moved outside the frame and chassis and are very large with rib tires for rough going.

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RADIO REMOTE CONTROL BOX



WIRES OVERHEAD OR IN-FLOOR

FIG. 5—ELECTRONICALLY CONTROLLED TRACTORS

This is an often asked question. The answer is that under some conditions, which will be detailed below, when we consider train operations, fork trucks are used to draw trailers. In the great majority of installations fork trucks are not good substitutes for tractors. Fork trucks are not designed for pulling.

They are designed, from the standpoint of transportation, for carrying their loads suspended on their forks.

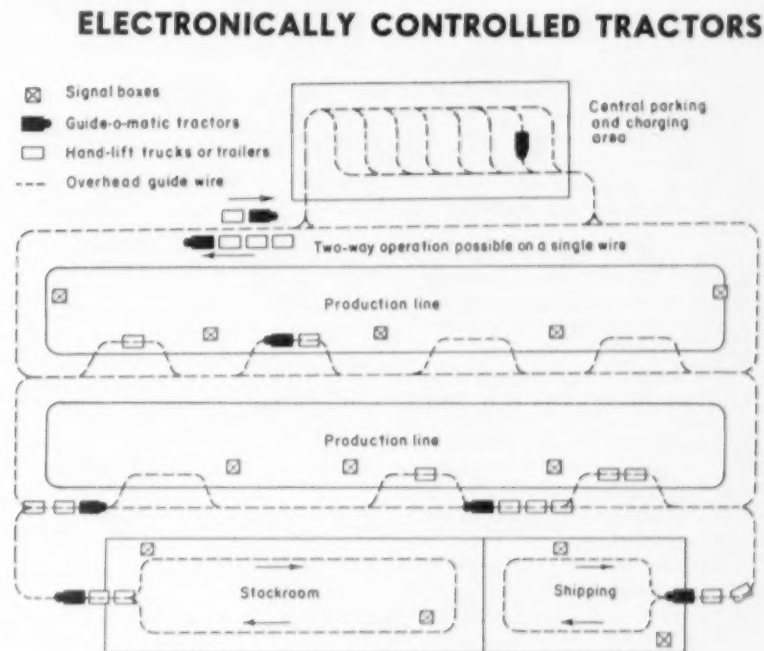


FIG. 6—ELECTRONICALLY CONTROLLED STOCK-MOVING INSTALLATION

Two remotely controlled tractors for trackless train service now are available, as shown in Fig. 5. The first, called the Tractorox is controlled by an operator who carries on his belt a small radio control box. By means of this box he is able to start or stop the battery-powered tractor and to steer it either to the right or to the left. This particular model is utilized in order picking and similar operations where it is desirable that the operator be able to control the motion of the train as he wishes.

The second variety, called the Guide-O-Matic operatorless tractor, is illustrated in Fig. 6. This machine follows a path established by a wire

stretched overhead or in the floor. Radio waves are transmitted over the wires by signal boxes located along the line of travel. If a truck is needed at a given point all an operator has to do is to press a button and a truck arrives at the station. A unique feature is that when one of these tractors returns to the central parking area it can couple automatically to a charging receptacle.

Both machines can be operated manually at any time in the usual manner if desired. Speed can be controlled. Safety features prevent the truck from hitting obstacles or personnel, and two-way traffic can be established.

## WHY NOT FORK TRUCKS AS TRACTORS?

These machines are built on the cantilever principle. The weight of the load is balanced nicely against the weight of the machine with the front wheels of the truck as a fulcrum.

The entire drive mechanism is engineered to give proper performance with the weights balanced around the axle of the front wheels. When the function of the machine is changed from carrying to pulling, the pressure on the front wheels is lightened—

hence their tractive effort is affected.

Should the truck be used to perform both duties—should both a capacity load be carried on the forks and a trailer train hitched on behind—the chances are that the machine's driving capacity will be overtaxed. In the last analysis, it comes down to a matter of specialization. (See p. 80.)

In general, it is best to employ a machine under the conditions intended by the manufacturer in his design.

## INDUSTRIAL TRAILERS

Before describing the various types of trailers usually employed in train operations we shall cover briefly certain kinds that might be called special purpose trailers which are designed to carry particular materials and are not normally made up into trains.

Fig. 7 shows the wide variety of models available. If there is not a trailer already on the market for a specific application, it is possible to have one made to order.

The trailer that stands at ground level can be combined with hand or mechanized loading equipment. It can carry barrels, crates, or any number of different kinds of products. The fact that it is elevated after loading and during transportation is an important feature.

The applications of the other trailers are indicated by their designations. Most of them are available in a range of sizes.

In general, there are four types of running gear used on trailers for trains. They vary considerably in their trailability. It is necessary to discuss each separately to point out their operating characteristics.

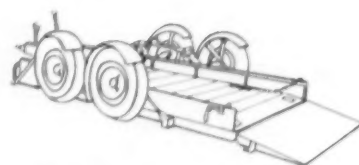
### BALANCED-WHEEL

**Balanced-Wheel Trailers.** This type has four or six wheels—two large central wheels and two or four smaller ones at the ends. These latter usually are swivel casters. This arrangement permits pivoting and turning about an axis at the center of the truck. They are extremely maneuverable but must be coupled properly together to trail well, otherwise they have a tendency to sway or whip. Their application is limited to hauling light loads.

### CASTER-STEER

**Caster-Steer Trailers.** These have running gear exactly like a platform truck with two large fixed wheels in the rear and two swivel-caster wheels at the front, as shown in Fig. 8. The rear wheels carry the bulk of the load and the front casters provide the maneuverability, which is very high.

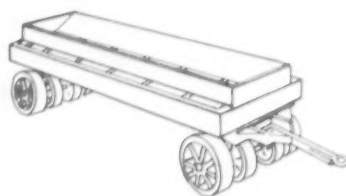
A trailer of this type can be handled in very confined areas. A train made up of caster-steer trailers has good trailing qualities. For general-purpose work this is the most satisfactory type of running gear for train trailers.



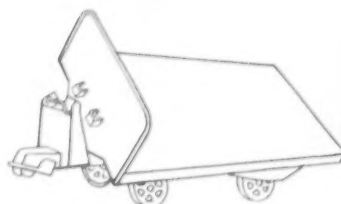
**GROUND-LEVEL LOADING**  
(Models 1500-10,000 lb.,  
13½ in ground clearance for towing)



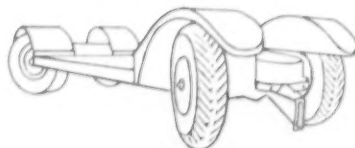
**UNDERSLUNG**  
(Platform 38 in X 78 in — height 6½ in —  
underclearance 3 in)



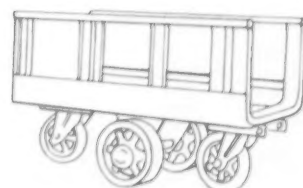
**STEEL COIL**



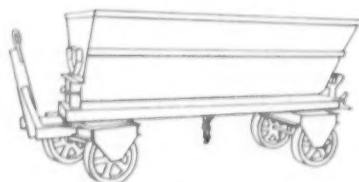
**ROCKER DUMP PLATFORM**



**KNUCKLE STEER**  
(30,000-lb capacity)



**BALANCED-WHEEL CRADLE**  
(3000-lb capacity)



**SIDE DUMPER**  
(1½ and 2 cu yd capacities)



**5TH WHEEL STEER**  
(50,000-lb capacity)

FIG. 7—SPECIAL PURPOSE TRAILERS

### FOUR-WHEEL STEER

**Four-Wheel Steer Trailers.** The two wheels at each end of these trailers are mounted on pivoted axles and the axles are cross connected by rods which causes the two sets of wheels to steer simultaneously, as shown in Fig. 8. These trailers can be hauled from either end. They provide the most accurate type of equipment from

the standpoint of trailability, but they are awkward to handle manually and are not recommended except for unusually long loads—those in excess of 16 ft.

### FIFTH-WHEEL STEER

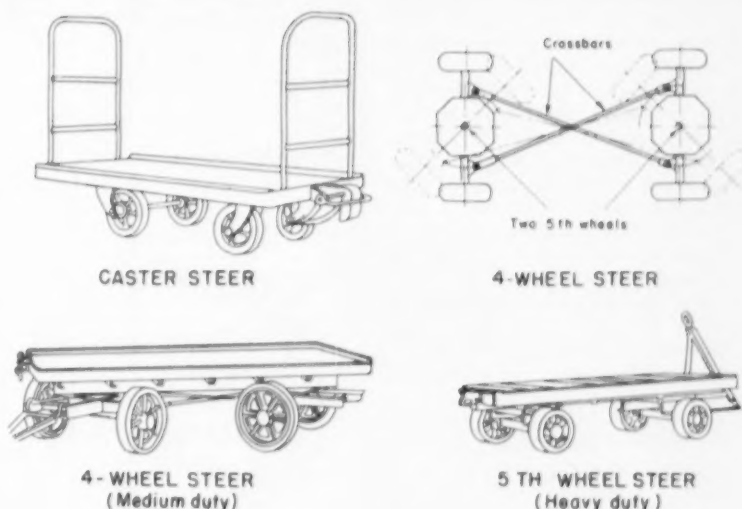
**Fifth-Wheel Steer Trailers.** These have the conventional mounting of wagon-type platform trucks, see Fig.



8. Their trailability is good and this type of steer usually is found in trailers for hauling heavy loads over long distances. They are rather difficult to handle manually in confined spaces.

Selection of the type trailer to be used depends, of course, on requirements of the job and physical conditions of the area in which the trailer will operate. Type of load to be carried, load weight, aisle space and clearances, floor load capacities, and distances to be traveled all should be carefully considered before a trailer is selected.

FIG. 8  
TRAILERS FOR TRAINS



## WORKING AREAS FOR CASTER-STEER TRAILERS

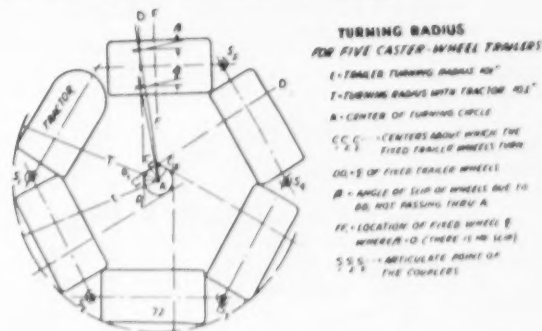
As mentioned above, caster-steer is the best arrangement for all-round trailer-train operations. It is important to know just how well trailers of this type approximate the initial path of the tractor—that is, their trailability. It is this characteristic of a train that largely determines the width of the intersecting aisles where it is to operate. It is a highly practical matter.

The drawings, as shown in Figs. 9 and 9a, which illustrate this phase of tractor-train operations were prepared by Mercury Manufacturing Co. and the descriptive text is based on information supplied by the same concern.

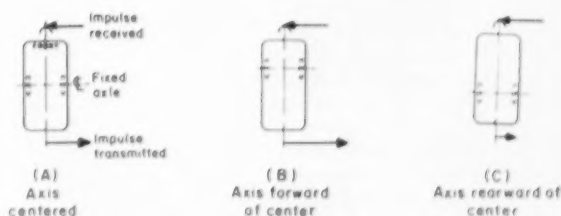
### TRAILABILITY

The trailability of a trackless train mainly depends on the relative positions of the fixed wheels of the trailers and the articulate point of the couplers. The importance of the couplers is shown by the fact that when a caster-steer trailer is moved by hand it turns by swiveling on its front casters and pivots about a vertical axis midway between the fixed rear wheels. However, when the same trailer is part of a train, this pivotal vertical axis changes to a position along the center line of the fixed axle where it is coincident with the instantaneous center.

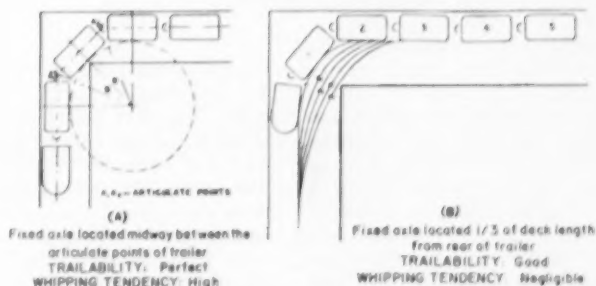
Fig. 9, Diagram 1, shows how five caster-wheel trailers in a train turn by pivoting about instantaneous ver-



1 TURNING RADIUS FOR TRAILERS



2 AXIS LOCATION AFFECTS WHIPPING



3 TRAILABILITY AND WHIPPING

FIG. 9

## Trackless Trains, cont.

tical axes whose centers are located at  $C_1$ ,  $C_2$  and  $C_3$ . If the axes of these trailers were located at the center of the trucks (indicated by the line  $FF_1$ ), instead of toward the rear (shown by line  $DD_1$ ), the trailers would turn about a vertical axis with perfect trailing. However, this kind of trailing would involve whipping or swing from side to side. In order to minimize whipping, some trailability must be sacrificed by locating the fixed axle to the rear of the truck's center.

How whipping is diminished by having the fixed axle shifted toward the rear, is shown in Diagram 2 of Fig. 9. When the axle is centrally located (A) any force transmitted by the tractor to the front coupler of the first trailer will be passed on in equal magnitude by the rear coupler to the second trailer.

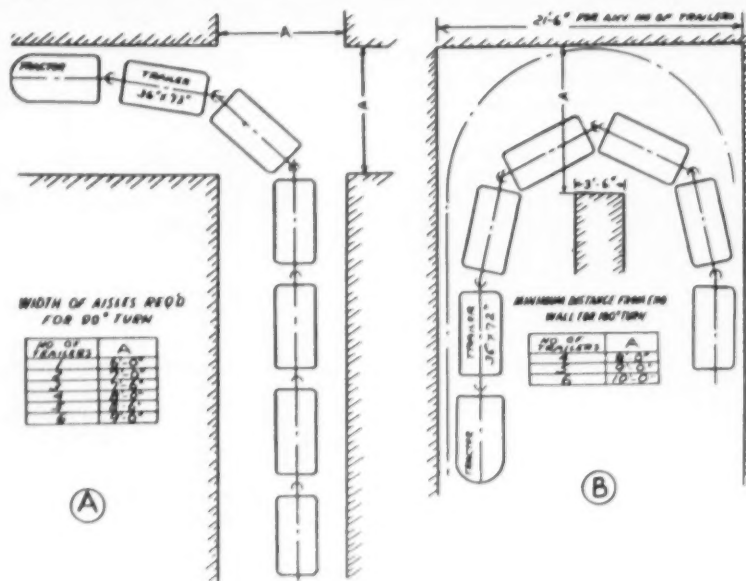
Should the axle of the trailer be located forward of the truck's center (B), the initial force from the tractor will be magnified as it is transmitted from the first to the second trailer. However, with the fixed rear axle behind the truck's center (C) the initial force from the tractor will be diminished as it is transmitted from trailer to trailer.

Diagram 3 in Fig. 9 shows the turning path of caster-steer trailers. It demonstrates (A), that this type of running gear provides perfect steering when the fixed axle of each trailer is located between the articulate points. However, the tendency for such trailers to whip is high.

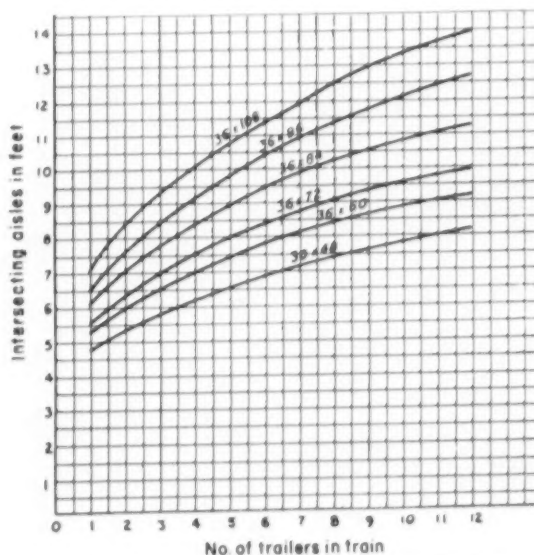
This tendency to whip is corrected with the fixed axle moved back (B) with the result that caster-steer trailers deviate only slightly from the path of the tractor. The slight deviation causes the turning paths to resemble parabolas and makes wider the required widths of intersecting aisles.

In practice, industrial trailers are designed to effect a compromise between whipping and trailability. It is difficult to lay out on paper the tracking paths when the instantaneous centers of the trailers are changing continually. The best method for determining tracking paths is to make test runs with actual equipment or scale models.

The results secured by this method are shown graphically and tabulated in Diagrams 4 and 5 in Fig. 9a. The tabulated values give the necessary widths of aisles (Diagram 4 of Fig. 9a) with sufficient clearance for trains of from one to six trailers, making a right angle turn and also the minimum distances that trains of several trailers must be, from the end



4 WIDTHS OF AISLES FOR 90° and 180° TURNS



5 INTERSECTING AISLES FOR DIFFERENT NUMBERS OF TRAILERS

FIG. 9a

of a wall, when the train is negotiating a U turn.

The curves shown in Fig. 9a, Diagram 5, are useful in determining the widths of aisles when the trailer size and wheel suspensions are known. They are based on trailers with caster-steer running gear equipped with safety self-couplers. The fixed axles are assumed to be located one-third of the deck length from the rear of each trailer.

To determine the minimum intersecting aisle width, use the number of trailers in the train as indicated across the bottom of the graph and follow the vertical line (the abscissa) from that value, up to the point where it intersects the curve of the correct trailer size, and then follow the horizontal line across (the ordinate) and read on the left-hand side of the graph the corresponding aisle width. To this value add one inch.

## TYPES OF COUPLERS

The drawbar of a trailer is a handle with a loop on the end for attaching it to the tractor or the preceding trailer. The drawhead is a coupler attached to the rear end of a tractor or to the platform of a trailer. The terms sometimes are used interchangeably.

There are many styles of couplers. They can be divided roughly into two types—those that are operated manually and those that are automatic. Examples of both types are shown in Fig. 10. When there are several trailers involved it is important that drawbars and drawheads be readily interchangeable. This point should be watched in adding new equipment to be hooked up with that already in service.

### EXTRA DUTY

Tractors can be put to work at jobs beyond their regular line of duty, as shown in Fig. 11. Snowplow and sweeper attachments are useful accessories which can be mounted and removed quickly. They represent an added dividend on tractor investment.

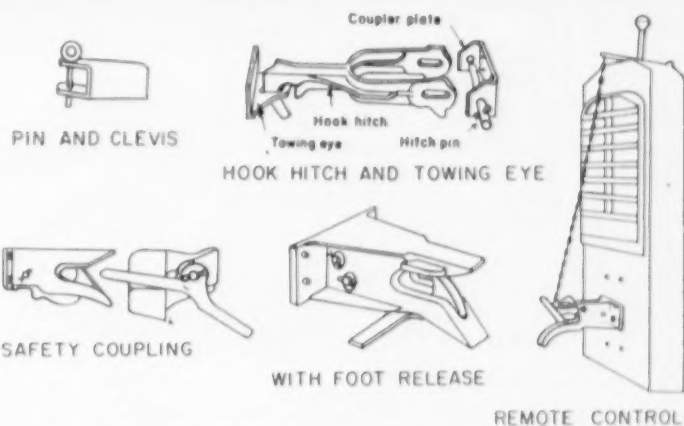


FIG. 10—TYPES OF MANUAL AND AUTOMATIC COUPLERS

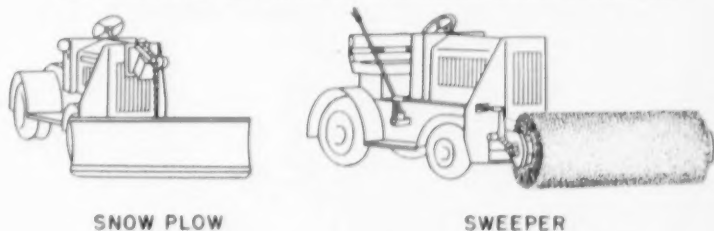


FIG. 11—ATTACHMENTS FOR EXTRA DUTY

## SPECIAL TRAILER-TRAIN APPLICATIONS

Tractors and trailers perform satisfactorily on level surfaces and up grades, but they do not function well as trains on down-sloping runways. There is a tendency for the trailers at the end of the train to start swaying and to run ahead of the other equipment in the assembly.

Various expedients have been tried, such as running a rod between the spokes of the rear wheels—a practice which wears down both the tires and the running surface. Brake shoes under the rear wheels, if made of wood, are less harmful to the runway and can be replaced when worn out. The manufacturers of trailers for trains offer brakes if required, but admit that they are at best a nuisance to set and disengage. The best practice is to avoid ramps wherever it is possible to do so.

### SWIVEL BOLSTERS

The use of two swivel bolsters for handling lumber, pipe, and similar long articles, as shown in Fig. 12, is a practical solution to a sometimes awkward but necessary operation. The setup is to carry these objects

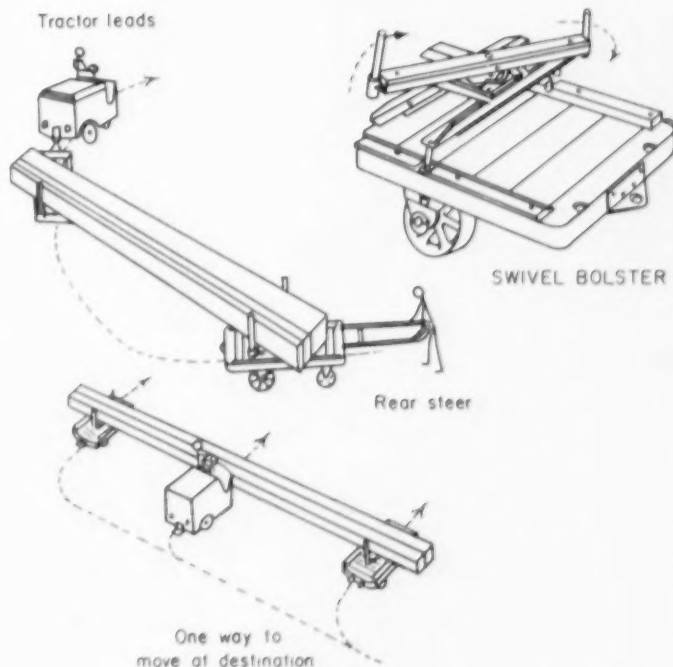


FIG. 12—HANDLING LONG SHAPES

suspended between two trailers on which are mounted swivel bolsters. The bolsters are free to articulate as the train is moved around the path of travel.

The operation involves two workers—the driver of the trailer and the worker who guides the trailing bolster. The arrangement is very much like the long hook-and-ladder truck which has the drive at the front end of the truck and a wheelman to manipulate the rear end as the truck snakes its way through narrow metropolitan streets.

As anyone knows who is familiar with the principles underlying unit-

load methods of handling, the high-lift self-loading machines are not intended for operations involving very long hauls. Where there is a continuous flow of products on skids or pallets, the tractor-trailer train is an ideal arrangement for providing the means of transportation. It must be remembered, however, that the setup normally requires that a fork truck be available at both the loading and unloading points—these are in addition to the tractor.

Mention was made earlier in this chapter that usually it is not advisable to use a fork truck for towing operations. Like every generaliza-

tion, there are exceptions. Assume a situation where a fork truck is required to break down tiers of palletized loads and position them on trailers to be hauled say 200 to 300 ft. Further assume there is no need for another fork truck except to remove the pallet loads from the trailers at destination.

It would be uneconomical to utilize both a fork truck and a tractor for such an operation. On the other hand, if there is need for a fork truck at the terminal point, as for example, to load the pallets into freight cars or trucks—then both fork machines could be kept busy.

## COMPARISON OF TRAILER TRAINS WITH OTHER METHODS

Unfortunately there is no rule of thumb which can be applied to arrive at a solution for the best method of handling in a given situation. We have to fall back on the old cliché, "it all depends upon conditions." In some instances the answer is obvious, in others it calls for extremely careful study and analysis.

Take, for example, a comparison of the trackless train system with the industrial railroad. One system is mobile, the other confined to paths of travel fixed by rails. On the other hand, the industrial railroad is able to move cars under conditions which would be impractical for trailer operations—in mines and quarries. Further, the payload of a railroad train can be far greater than that of a trailer train. Tracks can be laid over terrain which cannot be negotiated by an automotive setup.

How does the tractor-trailer method compare with truck towing by conveyors? There are fine points of distinction here. Again the question of fixed versus variable routes enters the picture. Both methods are powered—one by a continuously operating chain, the other by a mobile-powered unit. The cost of installing the overhead or under-floor equipment must be weighed against the investment in powered units.

Both systems move wheel-mounted carriers, but in one case they can be easily attached to, or detached from, the drive element at any desired point. They move unattended. It is difficult to make "drop shipments" selectively from the trailers of a trackless train. The trucks in a towing line can be detached, loaded at successive points, and again hooked onto the line. Such

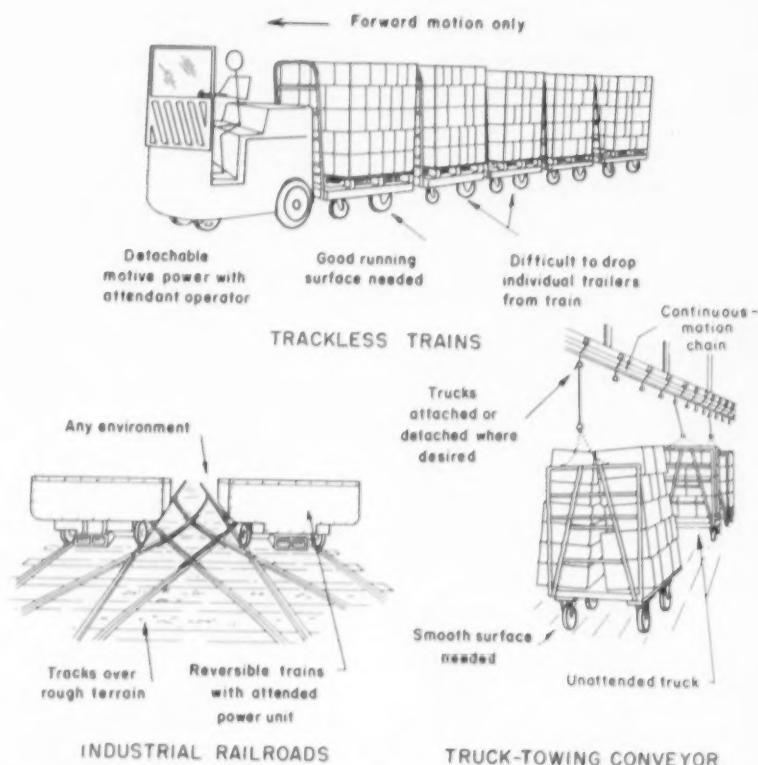


FIG. 13—FEATURES OF THREE HANDLING SYSTEMS

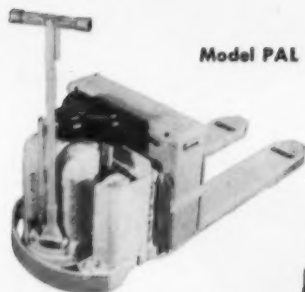
an operation would involve assembling the trailers into a train for tractor hauling.

On the other hand, if the loads are accumulated at one point for delivery to a common destination the trackless train is the preferable setup from an operating standpoint. A driven train does not travel alone, if we except the electronically controlled types.

It is all a matter of intensive study and analysis of all the factors involved to determine which is the best setup for given conditions.

In Fig. 13, the conventional type of equipment is being considered. We may have to revise some of our thinking when the principle of electronic control becomes widely applied to handling equipment.



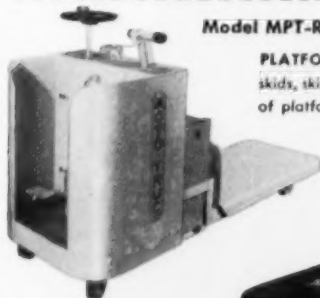


Model PAL

**PALLET TYPE**—For horizontal movement of loads on pallets. Both standard and extra short models available.

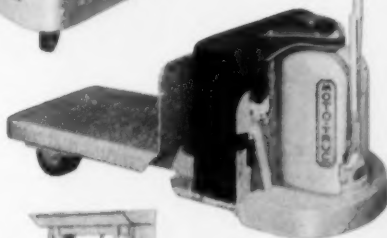


Model PAL-R

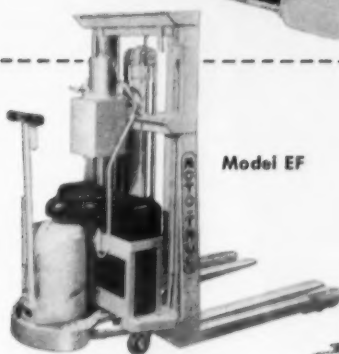


Model MPT-R

**PLATFORM TYPE**—For transport of skids, skid boxes, bins, etc. A variety of platform sizes are available.



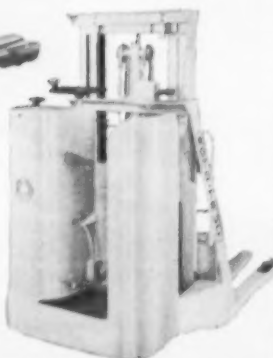
Model MPT



Model EF

**OUTRIGGER TYPE**—For high tiering loads on pallets. High platform trucks for stacking skids are also available.

Model EF-R



Model CB-R



Model CB

**COUNTERBALANCED TYPE**—For high stacking operations. Built with tilt and with or without telescoping uprights.

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# Within the



By Leo T. Parker Legal Consultant, Distribution Age

## TRANSPORTATION

### What are the factors considered in granting a special certificate for motor carrier operation?

A higher court recently rendered an important decision to the effect that—irrespective of financial worth of an applicant for a special certificate—the convenience of shippers and consignees, and the adequate service presently being rendered by the carrier is a prime consideration in granting or not granting such a certificate.

For illustration, in *M— P— Freight Transport Co. v. Public Service Commission*, 288 S. W. (2d) 679, the testimony showed facts, as follows: Between 1936 and 1941, the *M— P— Railroad Co.* applied for and received certificates to operate motor carriers of freight over various routes. The specific authority granted by the Public Utility Commission was that the Railroad might use trucks in transporting freight along its route, from depot to depot.

The authority was limited to picking up freight, in motor trucks, at its depots, and moving it to other depots. The service was strictly auxiliary to that of its train operation. No authority was granted by the Public Utility Commission to pick up freight at a consignor's dock, or to deliver same to a consignee's dock. Hence, freight delivered by the railroad's trucks to a depot was picked up by a local drayman and delivered to consignee.

Recently the railroad filed an application before the Public Utility Commission to have its certificated authority amended and broadened so as to permit its over-the-road trucks to pick up freight at the docks or loading platforms of its consignors, instead of at its depots, and to deliver freight directly to the consignees. The railroad contended that if its new application were granted

it could render better, more efficient, and quicker services between shippers and consignees.

It is important to observe that various trucking companies in the area contested the railroad's application for a new and broader certificate. Each of the trucking companies, through their officers, contended that the additional services requested by the railroad, or the *M— P— Freight Transport Co.*, would in no way add to the convenience of either shippers or consignees in this area. The Public Utility Commission considered all testimony and rendered a decision which denied the railroad's application.

The Public Utility Commission held that the application of railroad's subsidiary for enlargement of its authority to carry freight by motor trucks, so as to permit it to pick up and deliver freight by truck directly at the various customers places of business rather than operating only between depots, could not increase the public convenience and necessity with relation to other carriers in the field.

The higher court approved this disallowance of the railroad's application, saying:

"In the application here involved it is sought to have the authority therein granted broadened so as to permit applicant (*M— P— Freight Transport Co.*) to pick up from and deliver freight directly to its customers, in its over-the-road trucks, thereby abandoning entirely the use of railroad depots insofar as motor carried freight is concerned."

This court explained, in detail, that when considering new applications for transportation and distribution of merchandise in a designated area, the present convenience to both shippers and consignees; the present service being rendered by existing carriers; and the ability of present carriers to serve shippers and con-

signees in the area must be considered.

If the new applicant cannot materially improve, increase and add to the present convenience of both shippers and consignees there is no valid reason for granting a certificate to the new applicant, irrespective of the financial "greatness" or its apparent ability to render satisfactory, efficient and desired transportation services.

### Must trucker comply with state law when appealing a decision of the Public Utility Commission?

A higher court held that failure of a transportation or trucking company to strictly comply with state laws, when appealing from an order or decision of the Public Utility Commission, will invalidate the suit.

For illustration, in *A— Transportation Corp.*, 296 Pac. (2d) 459, it was shown that a state law provides that if officials of a trucking or transportation corporation are dissatisfied with an order issued by the PUC, such corporation must within five days furnish bond or deposit certain moneys for an appeal to a higher court.

The *A— Transportation Corp.* appealed from certain orders of the PUC, by notice filed Dec. 1, 1955. On Jan. 25, 1956 the corporation deposited \$300 with the secretary of the Commission.

In subsequent litigation, the higher court held that where no bond was filed or money deposited within five days after the PUC entered its orders, the suit by the transportation corporation would be dismissed. The court said:

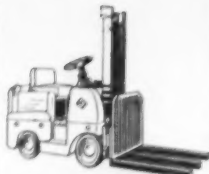
"We hold that the bond is required in an appeal from an order of the PUC. No bond having been filed or deposited within the time limited, the appeal is dismissed."



Crane Arm



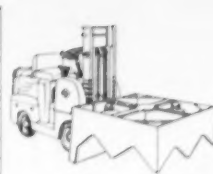
Hydraulic or  
Mechanical Scoop



Side Shifter



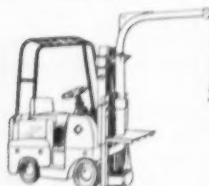
Revolving Carriage



Multiple Drum Carriage



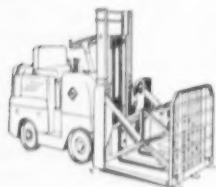
Dual Telescopic Mast



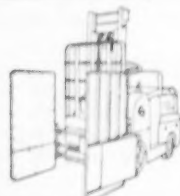
Cotton Boom



360° Rotating Carriage  
and Clamp



Unloader



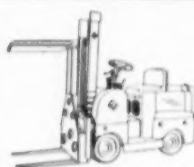
Carton Clamp



Ram



Brick and Block Forks



Load Stabilizer



Extension Package Rack



Clamps



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Allis-Chalmers Fork Trucks handle all forms of materials with the dexterity of skillful hands. Depending on the type of material or its container, an Allis-Chalmers Fork Truck can be equipped to scoop it, pour it, boost it, hook it, grip it, turn it upside-down . . . even skewer it.

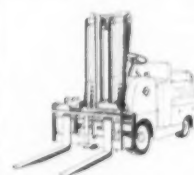
In addition to the standard attachments shown here, there are many more. Allis-Chalmers will be happy to work with you on attachments to meet your own particular material handling needs.

Ask your Allis-Chalmers Material Handling dealer to show you how this out-in-front versatility can speed many jobs throughout your plant, or write for more information.

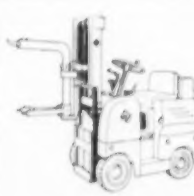
MATERIAL HANDLING DEPT., SUDA DIVISION, MILWAUKEE 1, WISCONSIN

**ALLIS-CHALMERS**

BH-24



Swing Shift



Garrett Breakout



## Intra-Plant . . .

(Continued from Page 42)

assembly to maintain delivery service. From a layout standpoint it was impossible to comprehend so many additional trailers floating through the system and using valuable floor space. It was necessary, therefore, to devise another method of handling and packaging.

We designed a three-tier shelf truck which was attached to existing trailers. After installation it adequately held all parts in the system.

### Basket Trailer Conveyor

This three-tier trailer solved a problem at one time. However, after two years use we found we were faced with another problem through our Fabrication Departments—that of mass movement of work to the next load station. Since a trailer did not move until fully loaded, the next using department received too much material at one time. We proposed, therefore, a basket trailer conveyor line to move parts the moment an order is completely finished and inspected in any one area.

The overhead aerial trailer is a 3 x 6-ft basket. It dispatches to some 16 stations. The conveyor is approximately 3000 ft in length and covers the entire Fabrication Department. It transfers parts to successive operations which are throughout the fabrication area, then to the new anodic-iridite processing painting equipment. It has eliminated dozens of trucks in the aisles and, most important of all, paces the work for the next load station.

Due to the small airframe parts to be fabricated, a conveyor line was installed to eliminate mass handling. The system is designed so that completed parts coming from each department can be hung on hooks. The line runs through the wash, iridite, and painting system in the basement, and

(Please Turn Page)

NOVEMBER, 1956



If you need  
just a slice...

then you need

# EAGLE

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SERVICE**

best for  
less-than-carload  
freight!



For complete information call  
your nearest Missouri Pacific  
Freight Representative

**FAST • CONVENIENT • DEPENDABLE**

# the morLift



**HIGH**  
in performance

**LOW**  
in price



*Saves space...time...  
man hours...money*

**Easy to Operate.** Adding to such features as low overall weight and a full 180° turning radius, the morLift offers an exclusive direction indicator, automobile-type brakes and lever type handles for travel and lift.

**Easy to Maintain.** Time and money saving as well as easy! Built-in battery charger plugs into any convenient outlet. Automatic controls prevent overcharging, and catalyst hydro-caps help maintain a safe water level. Excellent accessibility to all parts.

**Less in Cost.** Tho your morLift comes complete with battery and built-in charger, it costs much less than comparable hydraulic lift trucks. Specifically designed for 1000 and 2000 pound load capacities, the morLift keeps initial costs way down.

For the smartest move  
you'll ever make  
ride a **morLift**

Manufacturer's representative or distributor—  
write for information on territory available.

**JOHN MORRELL MFG. CO.**  
222 DUNDEE AVE., ELGIN, ILLINOIS

Write Dept. 162 or check your phone book for nearest distributor

Circle No. 122 on Card, Facing Page 55, for more information

## Intra-Plant . . .

(Continued from Preceding Page)

through the internal transportation unloading station. Each part is hung individually, and is not removed until all processes have been completed.

In the unloading station parts are removed from the conveyor after flow-coat painting. They are placed in the proper containers and into the three-tier trailers, ready for delivery to the proper terminating stockrooms. The conveyor system has eliminated the congestion of trucks and trailers in the aisles and speeded the operation.

### Die Storage and Handling

Die storage and handling always has been a problem. A four-story tower of frame-type construction, containing form dies and sheet metal templates, is used. Floor level is used for heavier Class A form dies.

Two small hand operated electric lift trucks maintain a shuttle service from storage to punch presses. We have combined the manufacture and repair of the form block tools to the second deck, just above storage. In one compact unit we can repair any damaged dies immediately, and store and supply in the immediate area of the using department.

Roller racks are used to store odd shaped hydro-press dies. A platform lift or truck is located opposite this rack so the dies can be pulled out and onto lift trucks.

Form dies are stored on shelves, individually spaced according to nature of die. A platform lift on a single monorail with up-and-down travel electrically operated transfers onto a small bridge and to any one aisle. The die is unloaded on a roller table.

Heavy form dies used on stretch presses are stored horizontally in racks. A fork truck is used for transportation to the press. These dies are stored outside the building.

In order to speed our blueprint

DISTRIBUTION AGE

and mail delivery service throughout the plant, small powered vehicles similar to golf course carts, were purchased. These vehicles make a complete circuit at each box every 15 minutes.

#### Transportation

For handling fuselages, wings and other components, new vans have been designed and constructed to hold an entire fuselage.

The fuselage, complete except for electrical installation and controls, boards a trailer at San Leandro, Calif. At Hayward, Calif., we load the center wing section. Fresno, Calif., sends outer wings in the pup trailers. These special trailers carry the sub-assemblies from the subcontractor to the final assembly plant. The big trailers make the 900 mile round trip in 28 hours.

On another of our routes a similar trailer carries raw parts to Reno, Nev., and brings back horizontal stabilizers, rudders and flaps. This run is 960 miles and takes 35 hours for a round trip. When the items are delivered back to the Torrance plant, the Douglas workers add electrical and hydraulic systems and again the growing plane takes a ride to the El Segundo plant, 10 miles distance.

The trailer contains its own winch for loading and unloading as it is necessary only to plug in a plant air line for air-powered motors to pull the plane on and off and lower the front of the trailer to ground position. •

(Resume Reading on Page 43)

#### New Truck Terminal



A new truck terminal with 18,000 sq ft under roof has been opened by Yankee Lines Inc. in Philadelphia. Occupying a two-acre plot, the 44-door terminal is the third new installation of this type built by the company in the past year.

NOVEMBER, 1956

## FREE! MATERIALS HANDLING

news, information, cost cutting ideas ...

*Right off the press  
to you!*



Every month you can count on getting all the latest news about ideas and equipment in materials handling direct from the industry's most productive "idea men."

"The Rapid Handler" is a concise, easy-to-read publication, edited and produced by Rapids-Standard Co. It's crammed with pictures and details that show how industry is solving difficult materials handling problems, recovering manpower and man hours for more profitable operations. It's absolutely free, and the coupon above will bring you a copy every month from now on.

Rapistan is known for its practical, time and money-saving ideas and new equipment. Two hundred experienced field men and the most progressive engineering staff in the industry, combine with a vast field communication system to bring you ideas from every corner of the world. This background of know-how makes it possible to solve many materials handling problems with the greatest speed, ease and economy. And with this wide experience, Rapistan men frequently are able to propose solutions to problems which haven't even been recognized. When your concern is conveyor . . . be sure one of the men you talk to is from Rapistan . . . the organization with ideas.

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BETTER CONVEYING EQUIPMENT

• Gravity Conveyors • Power Conveyors • R-Keystone Overhead Conveyors

The RAPIDS-STANDARD CO., Inc., 754 Rapistan Bldg., Grand Rapids 2, Mich., U.S.A.

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## Philip Morris Sold on Lehigh for FAST DISTRIBUTION—RELIABLE WAREHOUSING . . . The Modern Way!

**Otto Olsen**  
*Gen'l Traffic Mgr.,  
Philip Morris Inc., says*

"We have enjoyed the satisfactory use of our excellent warehouse facilities with Lehigh's Lackawanna Warehouse Co., of Jersey City, New Jersey, since 1941."

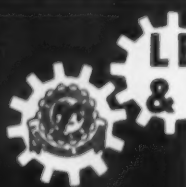
**Uninterrupted service.** "Adequate stocks stored close to consumption points has been our best assurance of uninterrupted, quick and dependable service to our outlets for perfect delivery of fresh cigarettes."

**No inventory problem.** "Close inventory control insures fast deliveries of fresh quality PHILIP MORRIS, MARLBORO and PARLIAMENT cigarettes from our factories to Lehigh's Jersey City Warehouse."

### SIMPLIFY—CUT COSTS IN YOUR DISTRIBUTION, TOO!

If distribution-warehousing causes you delays, too much red tape, inefficient operation . . . If yours is a piecemeal proposition, you need help right now! Discuss your problem frankly, in confidence, with a Lehigh Distribution Specialist. Whether it's a lack of "spot" stocks, surplus stock, a delicate "handling" problem or a system that just isn't working for you, Lehigh has good news. We can make a sound proposal at a saving to you.

**WRITE, PHONE or WIRE for Information You Need.**



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YOUR BETTER  
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**SUBSIDIARIES:** LACKAWANNA WAREHOUSE CO., INC., JERSEY CITY, — LEHIGH TANK TERMINAL, DAYTON, — LEHIGH WAREHOUSE & TRANS. CO.'S., NEWARK, PORT NEWARK, ELIZABETH, ATLANTA, — NEWARK AIR SERVICE, INC., — LEHIGH MARINE WAREHOUSE, INC., BROOKLYN, — DOCK WAREHOUSING & BOTTLING CENTER, INC., BROOKLYN, — LEHIGH TRANS. CO., INC., NEWARK, — VIRGINIA BONDED WAREHOUSE & TRANS. CO., RICHMOND, — LEHIGH HORSEHEADS WAREHOUSE CORP., — LEHIGH ATLANTIC TERMINAL INC., BROOKLYN.

## . . . Principle

(Continued from Page 46)

from sides or ends. They are employed between Pier 42 in Seattle and Alaskan docks, and are used for pilferable commodities. They also furnish protection for fragile and valuable cargoes.

The gards are confined to company ships and terminals, and are not offered for customer loading or forwarding beyond the company's terminals.

In addition to shipper advantages, the containers offer several conveniences to the steamship operator. Loading in foul weather can be completed without use of cargo tents or covers. In addition, when stowed on deck, a layer of gards makes an excellent floor for automobiles or other vehicles.

Both cribs and gards are handled by fork trucks on the dock and aboard ship.

### Trailer Van Service

Transportation of trailer vans by Alaska Steamship Co. started in 1953, when an arrangement was made with Garrison Fast Freight for a combined one-rate through service to Alaskan interior points with store-door delivery at destination.

The vans are 40-ft, 2,000 cu ft units, specially strengthened to permit lifting off and on vessels, and to withstand the rough Alaskan highways. They weigh about 12,000 lb empty, and approximately 55,000 lb gross.

The vans are carried on deck in all seasons; secured on fixed or portable trailer rests, with chain fastened to pad eyes on deck and drawn tight by turnbuckles.

The ship's heavy-lift gear usually is ample to spot the deckload of 40-ft trailers, but a tractor occasionally is brought aboard to assist with this work.

Efficient loading of vans for the 1700-mile combined land and water haul, with two transfer points, requires special handling, particularly where perishable goods are involved. Van walls and floors are slatted, and the cargo is loaded



to permit free air circulation. The load is bulkheaded at the rear of the van, and adequately braced to prevent movement forward, aft or sideways.

Ample protection against outside temperature is provided by four inches of insulation on top, bottom and sides. Each van is equipped with a refrigeration unit that can be exchanged for a specially designed heater whenever necessary.

In December of 1955, the Alaska Line, in conjunction with the Alaska Railroad, inaugurated a new sealed reefer container service between Seattle and Anchorage. This new service makes use of a 24-ft, 15-ton capacity insulated container, equipped with a mechanical refrigerator. They are transported on the Alaska Steamship's every-Friday CI-M-AVI sailings to Seward.

At the steamship company's terminal, motor trucks are cleared quickly. Loads up to 20 tons of groceries can be shifted from truck to pile in 15 minutes. Another 10 minutes is the total time that it takes to place a full load of collapsed empty cribs on a standard flat-bed truck. No clean-up crews are required on the truck in either operation.

The Alaska Line's "triple-threat" operation — employing collapsible wood cribs, steel gards, and loaded trailer vans — has proved to be a successful formula. Despite the fact that the system is adapted to the highly specialized Alaskan operation, it is capable of application in other over-the-water operations.

With the addition of roll-off-roll-on service provided by the two new ships, the movement of goods between Seattle and Alaskan ports should reach a new high in efficiency. •

(Resume Reading on Page 47)

### What's Wrong With Trailerships?

For an objective analysis of the trailership program, with recommendations for its successful operation, see Wayne W. Light's article on Page 64.



**YOU CAN STACK OR SHIP  
ANYTHING  
ON E.M.I. RACKS!**



"Keep your  
materials  
WELL STACKED!"

Equipment Manufacturing storage racks that stack, cut time and handling costs, protect workers and stock, and speed inventory.

E.M.I. racks are made of strong, welded tubular steel and are adjustable to fit any space or unit load. Special racks designed to your specifications. Field engineering service on any installation.

Before you decide on a new warehouse, additional storage space or the purchase of stacking equipment write for our new catalog.

*"Write for  
our new  
Catalog"*



**EQUIPMENT  
MFG. INC.**

21542 HOOVER ROAD • DETROIT 5, MICHIGAN  
Materials Handling Equipment • Stacking Racks for Industry



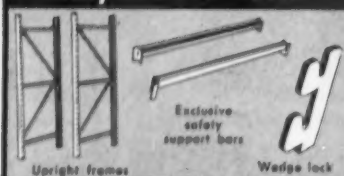
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**BAUER & BLACK**  
Division of The Kendall Co., Chicago

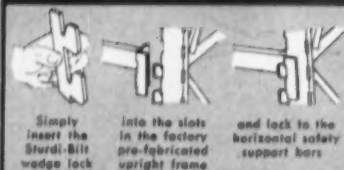
*"Our Sturdi-Bilt Adjustable  
STORAGE RACKS\*  
will pay for themselves  
in only 15 months!"*



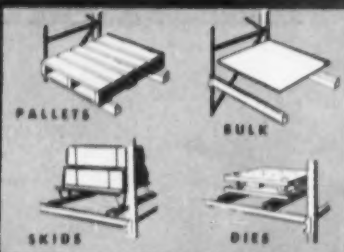
### Only 3 Basic Parts



WITH EXCLUSIVE  
**Float Wedge Construction**



**Instantly Interchangeable for**



### THE SECRET

#### Patented "Float Wedge Construction!"

Bauer & Black chose Sturdi-Bilt Adjustable Storage Racks because of their unusual flexibility, quick installation and instantaneous adjustability—WITHOUT TOOLS, BOLTS, NUTS, ERECTION WELDING OR SPECIAL LABOR!

Sturdi-Bilt's unique assembly principle—"FLOAT WEDGE CONSTRUCTION"—provided operating advantages possible no other way—INSTANT RESPACING, REARRANGEMENT, EXPANSION AND RELOCATION—AT ANY TIME—NO TOOLS—NO PARTS LOSS!

#### A 33 1/3% SPACE SAVING!

In one section of the warehouse alone, 12,000 sq. ft. of storage was condensed to 8,000 sq. ft. with The Sturdi-Bilt Racks.

#### LESS HANDLING!

Pallets are now handled individually, permitting complete merchandise selectivity and stock rotation. This, plus the simple adjustability of the pallet opening heights and widths and top loading, make all space usable, easily accessible storage space. This is why Bauer & Black is expanding the use of Sturdi-Bilt Adjustable Storage Racks—What other system can return its full cost in space and labor saving in so short a time?

#### WRITE FOR DETAILS

Let us prove how this new time-saving, money-saving, work-saving storage system can benefit your company too!

\*U.S. Patent No. 2760450  
Other patents pending



**Sturdi-Bilt**

**ENGINEERING COMPANY**  
2301 Peterson Ave., Chicago 45, Illinois

Dept.  
DA 11

## Radios Help . . .

(Continued from Page 47)

Because of the wide dispersal of vehicles, Hermann has found it more economical in mileage to mix freight pickups with deliveries throughout the day. Thus, radio is valuable all day long, as the dispatcher is able to assign pickups immediately when called in by shippers, rather than delay pending a telephone contact with the driver in the pickup area.

Drivers begin using the truck radios first thing in the morning, starting with a check-in as they leave the terminal yard. They also give notice of coffee and lunch stops, and as they make each pickup or delivery. In addition, drivers notify the dispatcher when they find a loading dock blocked by other trucks.

A Hermann driver can flash the terminal by radio to give the exact time he will make a pickup. In turn, the customer is notified by telephone to have the load ready—so it's just a matter of backing in, loading and leaving—without any time lost while a shipment is being rounded up.

Radio is a time-saver in case of breakdowns, too. Two maintenance trucks carry two-way radios.

Waybills give the dispatcher a running record of the freight carried on each truck, and so play a big role in efficient dispatching. The company keeps a duplicate master copy of each truck driver's bills in the dispatching office, and the dispatcher keeps track of his trucks by time-stamping each bill as the driver radioes word of the completed delivery. A large vertical pigeonhole rack divided up by truck routes helps keep each man's bill ready for immediate stamping, and gives the office a quick reference in case a question of shortage or damage turns up.

Along with the saving of time and miles, Hermann has seen radios cement customer relations.\*

(Resume Reading on Page 48)

DISTRIBUTION AGE

## Success in . . .

(Continued from Page 62)

Two hard-freeze rooms are used for the storage of frozen poultry and various frozen pork items. Temperatures are maintained at 15-20-deg below zero.

The selection line is adjacent to the loading dock which makes for added efficiency. Rounds of beef, chucks of beef and hinds of veal go directly to the loading dock on overhead rails, which eliminates added handling by the employees.

### Salvage Operation

Salvage operations are maintained in a separate warehouse with 25,748 sq ft of floor space. All salvagable wooden boxes, crates, returned bottles and other items are returned from the retail stores to this warehouse for either reuse or sale. The salvage program has helped reduce warehouse operating costs by bringing income for containers which in the past had been destroyed.

Safeway maintains a fleet of 387 tractor-trailers and trucks servicing stores throughout the Washington area with the most distant about 135 miles from the center. There are 69 refrigerated trailers for hauling fresh produce, frozen foods and meats. The temperatures in these range from zero for frozen foods to 45 deg for fresh produce.

The company has its own truck repair shop where equipment is serviced and repaired. There is a 10,000-gal capacity gasoline storage tank and 1,000-gal capacity oil storage tank for servicing trucks.

Security is maintained at the Distribution Center by uniformed guards who check all personnel and trucks at the gates and maintain a patrol.\*

(Resume Reading on Page 63)

### Reader Service Card

For additional information on New Products and Free Literature described in this issue (pp. 48-55) use the Reader Service Card facing Page 55.



Mobilift's flexibility in handling motors, compressors, dies, tools and even 20-ft. lengths of steel rods makes it the number one choice at Quiet-Heat Manufacturing Corporation.

## THESE JOBS PROVE MOBILIFT'S HIGH ECONOMY . . . RUGGED EFFICIENCY

Prove for yourself how a Mobilift® "Sit-Down" or "Stand-Up" Fork Lift Truck can help you cut costs at once — by substantially lowering operating and maintenance expenses . . . reducing man-hours per job to a bare minimum.

Only Mobilift Trucks give you high free lift at no extra cost . . . smooth Mobil-Matic® drive . . . fingertip controls for easier operation, and many other exclusive features.

Mobilift "Sit-Down" and "Stand-Up" Trucks operate on LPG or regular gas, and range from 2000 to 5000 lbs. capacities. Mobilift Sales and Service is available in 75 cities throughout the U. S. and Canada.

\*Trade Mark



FREE TO YOU!



A Mobilift does the work of three men in handling 165 kinds of hot and cold nesting cups at Solo Cup Company.



A Mobilift reduced highway truck loading time from 15 to 3 man-hours at M. M. Stevenson & Co.

☐ Mobilift "Sit-Down" Folder on How Mobilift's Exclusive Features Save Dollars by Increasing Efficiency.  
☐ Mobilift "Stand-Up" Folder describing Cost-Saving Features of the Only "Stand-Up" Gas Operated Truck on the Market.

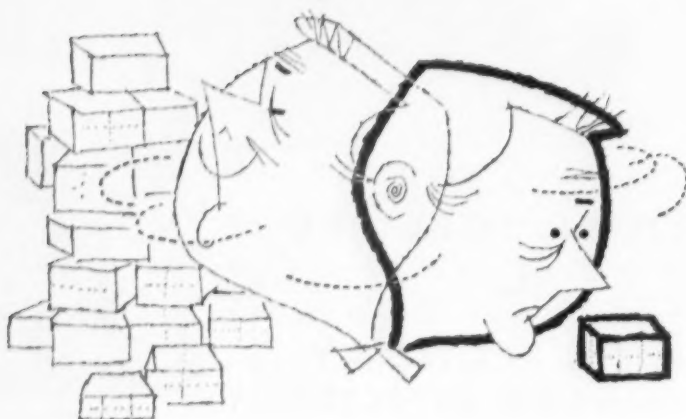
Name \_\_\_\_\_ Title \_\_\_\_\_  
 Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



Circle No. 126 on Card, Facing Page 55, for more information

How to diagnose and cure...

## SHRUNKEN STOCKS



**SYMPTOMS:** Nervous tension all around waiting for reorders.

**CAUSE:** Sudden unforeseen buying rush and unreliable and outdated distribution system.

**CURE:** To remedy this all-too-common disease (both mental and physical), use a delivery service that will shrink the distance between buyer and supplier. SLICK air speed is now available at rates often less than surface!

IT PAYS ALL WAYS TO SHIP VIA SLICK... CERTIFICATED AND SCHEDULED AIR CARRIER. Member ATA

**SLICK** airways inc.  
 World Headquarters: 2000 N. Clybourn Avenue Burbank, California  
 domestic and international air cargo • airmail • air express • overseas passenger charter

## ... Satisfaction

(Continued from page 63)

A full understanding of the company problems, big and small, by the average employee makes that employee a much more efficient worker and a much more satisfied individual.

**Confidence and Pride in the Company** always mean more satisfied employees, less labor troubles and better output from each individual. Confidence and pride in the company inspire more creative work effort.

**Assurance of Fair and Impartial Treatment** is of great importance to employee satisfaction with his or her job. Any individual who must work under constant uncertainty is an individual giving little more than he must to his job.

Such assurance comes from more than mere declaration of management policy toward attaining fair and impartial treatment. The convincer comes in actual demonstration of the policy at every opportunity. The employee will be sold on such a situation by what he sees done in handling the incidents that arise among his fellow workers and by how he as an individual is handled in his first case of dispute.

This first test must be handled with utmost tact by supervisory personnel for the impression left remains long thereafter.

**Freedom to Offer Suggestions** and criticisms is of the utmost importance in employee relations toward building greater job satisfaction. The individual who feels that management never will be really interested in his ideas soon loses enthusiasm for his job. An employee who knows he can ask questions or criticize has much more faith and confidence in the company and his job.

Not only is this factor of importance from the employee job satisfaction standpoint but experience has shown that where it exists many excellent suggestions and ideas come from the ranks. •

(Resume Reading on Page 64)



## ... People

(Continued from Page 69)

this corporation is dependent upon the growth and development of the people who comprise it. To implement this fundamental belief, the following statements reflect our policies as to the development of personnel:

"1. It is our policy to encourage the individual growth and development of each person in the Corporation.

"2. It is our policy to establish the necessary opportunities and provide encouragement, guidance, and direction which will make the development of individuals purposeful and valuable, both to the individual concerned and to the Corporation.

"3. It is our policy to consider the qualifications of all available employees for openings which occur in the Corporation, prior to the selection of individuals from outside the business.

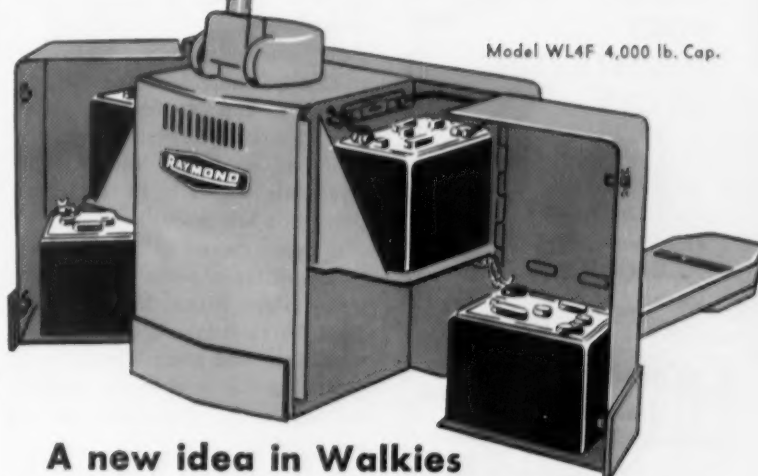
"4. It is our policy to provide systematic and continuous attention to the supply, organization, maintenance, and improvement of management personnel within this Corporation.

"If the administrative procedures which have been established to carry out these policies are adhered to, the corporation as a whole and its operating divisions may expect a full return on the necessary investment of time, effort, and money through enhanced performance in present jobs, through an identified and adequate number of experienced individuals capable of assuming greater responsibilities, and through a generally high-level of morale among all employees. This is the kind of return which we expect to receive on an investment of this magnitude."

The statements and writings of the company experts during the past few years indicate a variety of tools and procedures which are in use throughout the country. Without arguing for or against any particular approach, I think

(Please Turn Page)

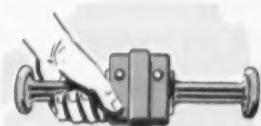
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## ... of Building People

(Continued from Preceding Page)

there are four basic tools with attendant procedures which are the hallmarks of a planned approach to the development of people!

1. Some means to inventory, periodically, individual talents, experience, and aspirations. For this we use an Experience Record which is completed and brought up-to-date annually by each employee in a key position.

2. Some means to identify, select, and place potential management talent within the organization. To facilitate this, we use a procedure and some simple tools, including a code-card system based on the Experience-Record information.

3. Some means to appraise, individually, current results, performance, and prospects. Here, we use our Performance Review procedure. This becomes the cor-

nerstone of all planning for individual development.

4. Some means to record each individual's developmental needs and progress, both as to his present performance and his future prospects. This is an area frequently left dangling and which we attempt to cover through an "Individual Development Plan" prepared jointly by the individual and his boss.

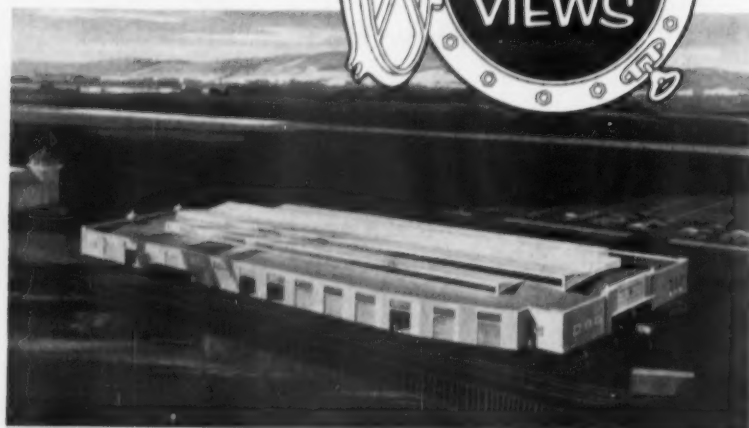
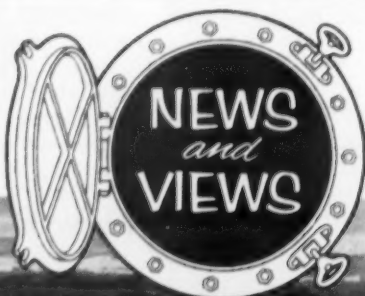
Tools, procedures, and methods in themselves are hollow things. They require the personal participation of top, line managers. Mere encouragement, backing, or sitting in, is not participation. The top, line executives involved actually must accept and sponsor the techniques and procedures used. Such participation frequently has been emphasized. Willard E. Bennett, in his "Master Plan for Management Development," says that "the lower echelon manager seems to possess an unerring intuition for distinguishing between those things in which upper level management is genuinely interested and those to which it pays only lip service. Universal participation is a sure way of proving the sincerity and genuineness of top management's interest in training." Participation is an important prerequisite for the necessary growth-atmosphere which must seep down from the top in an organization.

### Equal Opportunity

Some organizations limit their developmental activities to a "chosen few." There must be equality of opportunity within the organization. All individuals do not need the same developmental treatment, but all must have opportunities to improve their performance. It is almost axiomatic that it is impossible for a company to grow and develop, over any period of time, unless all of the people who compose it—and particularly the management people—can grow and develop.

Related to this is the need to

## Port of Los Angeles\*



**NEW PORT TERMINAL**—A marine cargo transit shed now under construction will process \$1,000,000 in commodities monthly. Funds advanced by Matson Navigation Company for the building on the site of their preferential-assigned marine terminal will be repaid from five years' harbor tolls. Thereafter, earnings will finance other port improvements.

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apply such processes throughout all parts of the organization. All departments, functions, locations, and levels should be involved—personnel development is an organization-wide requirement.

Bosses, at all levels, need to know what developmental resources are available. Our current list identifies 13 on-the-job methods; seven off-the-job methods; and eight on-or-off the job methods. This list is printed on page 69.

The subject matter to be considered in developmental activities has caused much discussion. There are no final answers, although it is true that any one's development involves more than a single-subject field. There probably is no actual limit to the subject matter or content that can be included in a planned approach. Breadth is virtually unlimited, with all the functional fields in business, plus the many areas encompassed in the meaning of the term "liberal education."

The action to be taken in building people must be considered as both long-ranged and continuous. As long as a business exists, it must continue to develop people, for its present and for its future. Then there is always the problem of getting genuine, bona fide action. Thus, there must be some established frequencies and some deadlines for appraisals; there must be some established ways to keep personal inventories up-to-date; there must be some assurance that each individual is actually being counselled and coached by his boss; and there must be some way in which supplemental, off-the-job techniques and methods can be brought to bear in specific situations.

We must recognize that we really don't build people—we can only give them the opportunities to build themselves. We create a "climate" which either fosters or handicaps positive personal growth. •

Editor's Note: This article is excerpted from an address given by Mr. Trickett before the recent Tenth Anniversary Meeting of the American Society of Traffic and Transportation in San Francisco, Calif.

(Resume Reading on Page 70)

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## ... With Trailerships?

(Continued from Page 65)

transportation planning. It announced the conversion of the upper decks of two oil tankers for the purpose of accommodating truck trailers or their demountable bodies. Admittedly an experiment, the ships' operating economy was to be assured by the transport of oil, while the trailers were either plus profit or would test a theory of operation.

Another fallacy in this proposal was that the ships were to make one trip per week between two terminals one to two thousand miles apart. Customers for this form of transport naturally would have to come from private interests, which is outside of the total transportation concept and without stability.

In another instance, trailer-ships were put into service as common carriers under a certificate from the ICC. While the transport costs by ship were less than over

the land highway, the uncertainties of accommodation, the appearances of instability of the ferry-like service, and the lack of assurances that over-the-road drivers would not be permanently displaced, resulted in boycotting the ships and failure.

The Erie Canal and Hudson River were exceedingly important to the New York port economy until waterway traffic was obsoleted by the railroads, after which the advent of motor trucks and trailers quickly congested the Albany Post Road between Albany and New York City. This presented what seemed to be a new and profitable opportunity for transporting truck trailers up and down the Hudson River.

Ships for this service, and common carrier certificates, were procured. A rate of \$50 per trailer per trip was established. This was less than driving over the road. The difference in the cost of the line haul was no inducement, and there were no customers.

Efforts then were made to contract for the transport of industrially-owned trailers, but they were unsuccessful due to labor union intervention. The losses were prohibitive and the operation ended in failure.

### Better Management

The ships then were purchased by a well-financed interest which was intrigued by the apparent opportunity for profit, believing that better management was all that was needed. It was reasoned that to transport 50 trailers (full capacity) on each ship, per trip per day, could produce a \$5,000 daily income against a total alleged operating expense of \$2,000 a day—a day meaning 24 hours—or a gross profit of \$3,000 a day.

The violation of transportation principles being the same, the ships were not patronized. Consequently, after three trials, the venture failed with a loss said to be a million and a half dollars.



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Money even was spent in a frantic effort to buy business.

Some of the alibis were: The ships were not the right type (which was true enough basically, but not the cause of failure); the ships were too expensive to operate (even so, there was a great difference between expense and budgeted income which was never realized); there was too much opposition by labor unions, and politicians; and that trucking operators did not see and appreciate a good thing when it was offered to them.

These were the patterns of similar efforts throughout the country. So, the possibility of developing the so-called trailership service on a sound and profitable basis received a severe setback in the minds of both capital and truck-trailer operators.

Most of these failures, including the Hudson River attempts, were chargeable to men who were well-known as experts in the employment and operation of ships. Their trouble was that they did not understand the trucking business and its needs, and its inalienable relationship to transportation in a total sense.

#### Roll-on-Roll-off Concept

Roll-on-roll-off is the name given to a new type of ship variously proclaimed as the answer to water transport of truck trailers. For example, it is proclaimed that, with specially designed piers and ramps, such ships would handle cargoes of loaded trucks instead of packaged freight. This, it is claimed, would reduce the cost of marine cargo handling and the time of ships' turn-around, which are the bottlenecks of their operating economy.

"Fishy Back," "Piggy Back," "Piggy Boat," and "Lift-on-Lift-off" are other specious names that connote anything but serious consideration of truck trailers as an ally for completing the cycle of total transportation and distribution. But they evidenced recognition of the truck trailer as an established and potential factor in the transportation system. Also, they show a desire to write the highway vehicles down but still

make use of them for profitable traffic by the older forms of carriers.

The idea of roll-on-roll-off ships is the heritage of water landing craft during World War II for unloading tanks, jeeps, and other mobile units on enemy shores. There is no semblance of relationship between this and the transport of truck trailers as part of a transportation system.

#### Important Goal

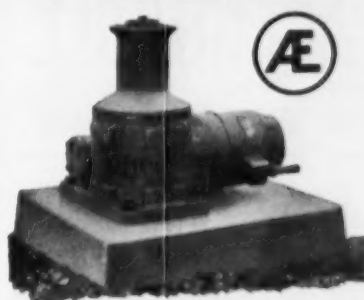
An important goal in ship operations is to minimize labor costs involved in loading and unloading. These costs are estimated to take 55 to 65 cents out of every dollar of gross freight revenue—the largest single expense. Minimizing expense of the ship operation is commendable, but this consideration should follow the establishment of a sound operating economy.

These roll-on-roll-off type ships are destined for short lives if, indeed, they could ever get started. It is claimed that this type of ship, carrying 400 trailers, can be

(Please Turn Page)

Circle 128 on Card Facing Page 55

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## ... With Trailerships?

(Continued from Preceding Page)

loaded and unloaded in a day. This contrasts favorably, for the ship's economy, with the time required for the same volume of loose or uncontained goods. But a day's time is too long for the trailer operator's economy, which cannot be justified by the lower cost of the line haul.

### Loading and Unloading

As a matter of fact, a ship carrying 400 trailers can be loaded and unloaded within approximately three hours. This can be accomplished by altering designs of piers and ships, and by using methods that are consonant with total transportation—and with the needs of both the ships and their customers.

The current roll-on-roll-off concept provides for rows of trailers lengthwise, parallel to the length of the ship. Hence, the first trail-

ers aboard would be the last to come off, losing valuable time for most of the operators.

### Technical Problems

Then there are some technical problems that seem to have been overlooked. For example, lengthwise loading contributes a greater torque when the ship rolls from side to side. This endangers the ship's stability. Depending upon the size of the ship and trailer load, the danger of capsizing the ship limits or prohibits its use regardless of ship design.

Furthermore, there is no need for a roll-on-roll-off technique—except to save a comparatively negligible ship loading and unloading equipment cost. Eventually, some form of semi-automatic conveyor system inevitably will have to be installed, for the reason

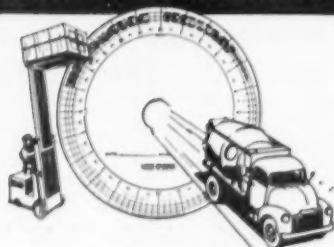
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that trailer operators will not be long in recognizing the economy of shipping the contained lading instead of the entire costly trailer.

#### Mobile Equipment

The trailer operator's economy resides in his mobile equipment. When that is idle it is unproductive. Therefore, by using ships for transporting the contained lading in demountable bodies or containers, the operators can employ their tractors and trailers to multiply their pay loads to and from the ships. This will enhance their economy as well as that of the ships'.

Until the transition from the entire trailers to demountable bodies and/or containers advances into general use, it would be infinitely more practical to load trailers athwartship. By so doing, the greatest torque runs with the length of the ship, which provides the necessary factors of stability and safety.

Also, the number of trailers to be carried by the ship definitely is predetermined regardless of size. This has a most potential relationship to the economy of selling ship space. As an operation for the interpenetration of traffic between different forms of carriers, space reservations to insure availability as a substituted route is a condition precedent to success.

#### Potential Trailer Business

Every truck trailer engaged regularly between points located on or near a waterway, can be considered potential business for transport by ship. More than that, their operators cannot afford not to use such a ship service—provided that it is tailored to the operating advantage of the truck trailer operators. Otherwise, it would be merely a means of gainfully employing ships for common carrier truck trailer transport in a way that public mass transportation facilities usually have been conceived. The same concept, in substantial measure, accounts for the decline of mass transportation at all levels. It also accounts for the transportation and

distribution problems that are becoming increasingly more frustrating from year to year.

The era of monopoly of transportation is at an end. If the pitfalls encountered in the past are not avoided in approaching this new form of transport, the results will show clearly that failure was due to the fact that the principles of total transportation had not been followed—all alibis and rationalizing to the contrary.

#### Potential Business

Potential business exists today for full capacity, or a minimum of 80 per cent thereof, for every trailer business that is properly positioned in service. Actual truck trailer business can, and should, be procured on a contract basis before the ship service begins operating. In turn, those contracts depend on the manner in which the operating philosophy is established, and the extent to which the advantages of the service to the truck trailer economy are presented. •

(Resume Reading on Page 66)

Circle 133 on Card Facing Page 55

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## Know Your "MARKS"?


(Continued from Page 70)



How They Were Altered (See Page 70)

1. P should be large center initial; 2. Extra vertical line through S, L shortened; 3. Shield shape changed; 4. Initials stood on end; 5. White bullets added; 6. Diamond, wreath & flag reverse color; 7. Shield shape changed; 8. Wings added to right side; 9. White lines added, box made horizontal; 10. Ampersand replaced by the word and; 11. Locomotive replaces sun; 12. Unchanged.

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## Household Goods Storage Plan Adopted by U. S. Armed Forces

The Department of Defense has announced a "uniform plan for the storage of household goods of military personnel." The directive conforms with a Hoover Commission recommendation that commercial warehouse space be used for the storage of military personnel household goods.

The regulation provides a uniform contract and schedule of services, eliminating several contract forms previously used by the various services. Local administration of the new regulation will be conducted from 18 field offices at military installations throughout the country.

—DA—

*The South Carolina Household Goods Movers Assn. has scheduled its fall meeting for Nov. 16-17 at the Hotel Wade Hampton, Columbia, S. C.*

—DA—

## Burnham Named President By Southeast Warehousemen

B. L. Burnham, general manager of Burnham's Van Service and Burnham Warehouse, Inc., Columbus, Ga., was elected president of the Southeastern Warehousemen and Movers' Assn. at its recent convention in Miami Beach, Fla.



Keynote speaker was J. C. Aspinwall, Jr., president of the National Furniture Warehousemen's Assn.

Other speakers and guests included Donald A. Horton, executive vice-president of the Merchandise Division of American Warehousemen's Association; L. B. Larson, assistant general traffic manager of Kimberly-Clark Co., Neenah, Wis.; E. D. Byrnes, executive director of National Furniture Warehousemen's Assn., Chicago, and R. A. Robertson, president of Robertson Warehouse Co., Orlando, Fla.

# Warehouse SPOTLIGHT

## M. L. Santini Elected President Of N. Y. Warehousemen's Assn.

Martin L. Santini was elected president of the New York State Warehousemen's Assn. at a recent annual meeting held at Saranac Lake, N. Y.

Other officers and directors are: Louis Irmisch, general vice-president; James E. Wilson, Jr., merchandise vice president; Louis C. Schramm, household goods vice president; Edward J. Costich, secretary-treasurer, and Leslie C. Roe, Nelson Biden, and Robert Cassidy, members of the Board.

## Men in the Spotlight

William L. Sneltjes—appointed vice president-sales of the North American Van Lines, Inc.

William Dalton — elected to the Board of Directors of the American Soc. of Association Executives for three years.

Thomas A. Seeman — named to the sales force of Affiliated Warehouse Cos. in Chicago. At the same time he became sales manager of Illiana Storage Co., Inc., Affiliated's Hammond, Ind., member warehouse.



## Obituaries

Ernest T. Chadwell, Sr.—vice president of Bond, Chadwell Co., Nashville, Tenn., died recently at the age of 76. He served as a vice president of the National Furniture Warehousemen's Assn., the Southern Warehousemen's Assn., and Allied Van Lines, Inc.

Myles F. Rockey — founder of the M. F. Rockey Storage Co., New Cumberland, Pa., died while on a trip in Norway, recently. He is a former president of the Pennsylvania Furniture Warehousemen's Assn. and had served as that group's secretary. He also was active in the National Furniture Warehousemen's Assn.

—DA—

*The Movers and Warehousemen's Div. of the Associated Motor Carriers of Oklahoma, Inc., will hold its annual convention at the Mayo Hotel, Tulsa, Nov. 15-16.*

(Please Turn Page )

## Refrigerated Containers



Saguenay Terminals, Montreal, Quebec, has purchased a number of these new refrigerated containers for use in their United Kingdom North Continent and Caribbean services. Manufactured by the Shipley Co. of Canada, Ltd., the electric ice boxes have a capacity of 525 cu ft and are used for the shipment of fresh foods, drugs and medicines under tropical conditions. The boxes are thermostatically controlled at temperatures ranging from 0 to 50 deg F. Each unit is 18 x 8 x 7 ft and weighs six tons

# Warehouse Spotlight . . .

(Continued from Preceding Page)

Expansion of its overseas household moving service to the U. S.-occupied zone in Germany has been authorized by the directors of United Van Lines. United agents throughout the U. S. and Canada will route their van shipments to New York, Hampton Roads, Va., and New Orleans. At these ports the goods will be transferred to government-owned containers and shipped to Bremerhaven.

—DA—

## Missouri Warehousemen's Assn. Elects Anderson President

Missouri Warehousemen's Assn., in its annual convention at Excelsior Springs, Mo., elected Oscar S. Anderson, of Adams Transfer & Storage Co., Kansas City, general president.

Other general officers are Otto F. Long, Jr., Southside Moving & Storage Co., Kansas City, vice president, and Wallace W. Barr, Crooks Terminal Warehouse, Inc., Kansas City, secretary-treasurer.

Merchandise Division officers are: Morris M. Stern, Mid-West Terminal Warehouse Co., Kansas City, president; E. L. Wintermann, Tyler Warehouse & Cold Storage Co., St. Louis, vice president; and J. C. Gleeson, St. Louis Terminal Warehouse, secretary-treasurer.

Household Goods Division officers are: Horace A. Prosser, Prosser's Moving & Storage Co., St. Louis, president; Norval Murray, Sloan's Moving & Storage Co., St. Louis, vice president; and Charles W. Barker, Joplin Transfer & Storage Co., secretary-treasurer.

—DA—

An agreement between Aero Mayflower Transit Co., Inc., and The American Express Co., Inc., provides for inter-continental house-to-house movement of personal property of U. S. servicemen between Germany and this country. American Express will represent Aero Mayflower in Germany.

## Warehouse Briefs

The Frank Hamilton Warehouses, Inc., has moved into a remodeled building containing 169,000 sq ft at 2101 Ross Ave., Cincinnati, Ohio. The one-floor building has truck docks on both sides and an eight-car rail siding.

Allied Distribution Inc. has added Ward Warehousing Corp., of Altoona, Pa., to its members. Ward has a new warehouse of 100,000 sq ft with 20 car spots on two rail sidings and 10 truck docks.

The 2,000 household moving vans and nationwide communications network of North American Van Lines, Inc. has been made available to the Federal Civil Defense Administration in the event of a national emergency. Since the vans are in constant motion in every part of the country, a large fleet could be summoned to any area for emergency duty within a few hours.

The annual meeting of the membership of Household Goods Carriers' Bureau was held Oct. 17 at the Dupont Plaza Hotel, Washington, D. C. Six members were elected to the Board of Directors.

Officers elected by the New York State Movers Conference are: President George Winkler, Jr., Vice-President George M. Clancy, Secretary Earl King, Jr., Treasurer Louis De-Stefanis, and directors (3 years), Louis Irmisch, Lionel E. Weeks, Cy Garvey, George E. Treyz and Lyman Farr.

Republic Van & Storage Co. will double the capacity of its Santa Ana branch as part of its 1956-57 major expansion program. The new building, to be erected at 1130 E. 17th St., will have 16,000 sq ft of storage space.

Interstate reciprocity problems as they affect movers were discussed by the Advisory Board and the Reciprocity Committee of the Movers' Conference of America at a meeting in Washington on Oct. 11.

The National Assn. of Refrigerated Warehouses recently paid special tribute to the American Meat Institute for its contributions to the diet and health of America. Recognition of the achievement was made at the AMI Golden Anniversary convention in Chicago.

The Terminal Ice & Cold Storage Co., of Hillsboro, Oregon, was presented an award for its record of accident-free operation for one year by the National Assn. of Refrigerated Warehouses.

Patterson Transfer Co., of Memphis, Tenn., recently celebrated its 100th Anniversary.

## Refrigerated Warehouse



This new \$1 million plant of the Kern Ice and Cold Storage Co., Bakersfield, Calif., stores more than 23 million pounds of seed and table potatoes, three million pounds of grapes and 500,000 cases of packaged foods in a single year. The Company is serviced by a 21-car railroad siding and 650 ft of truck dock. Total storage area is 972,000 cu ft.

A new service, offered by Allied Van Lines, Inc., Broadview, Ill., and which has been approved by the Army's chief of transportation, covers door-to-door shipment of household goods between the continental U. S. and West Germany. AVL agents will transport goods to New York, Norfolk, Va., or New Orleans. At these ports the goods will be transferred to government-owned containers and shipped to Bremerhaven.

—DA—

## Strother Named President Of Virginia Warehousemen

Morgan W. Strother of the W. Fred Richardson Security Storage Corp., Richmond, was elected president of the Virginia Movers and Warehousemen's Assn. at its recent convention.

Also elected were T. C. Shelburne, of Shelburne Transfer and Storage Co., Richmond, executive vice president; B. J. Knight, of Knight Moving and Storage Corp., Lynchburg, secretary; and Alfred E. Crowe of Vet Vans of Virginia, Arlington, treasurer.

Regional vice presidents are Ward Scull, L. B. Walker, Allen R. Smith, V. V. Gordon, D. O. Arnold, D. B. Whitbeck, Carlton Wooldridge, J. H. Hildreth, C. P. McDaniel and Earl Newlon. Directors-at-large are M. F. Aspinwall, J. H. Ferguson, and James Goodwin.

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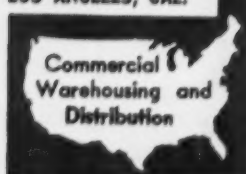
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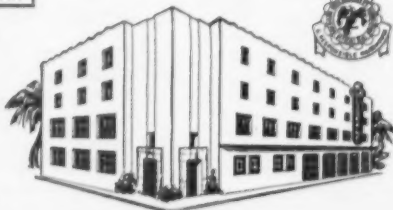
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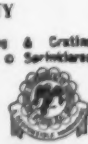
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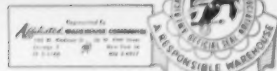


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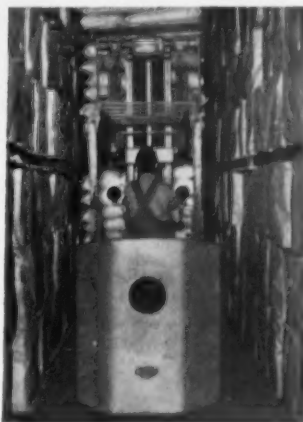
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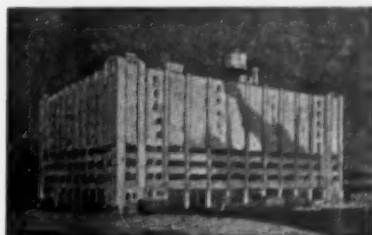
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Incorporated  
FACILITIES—500,000 sq. ft. Reinf. concrete & Steel. Fir. Id. 250 lbs. Fireproof. Auto. Fire & Burg.—ADT. Ins. \$1.07. Siding PRR, 30 cars. Shell. plat. 20 trks. SERVICE FEATURES—Pool car dist. Co. oper. cartage serv. 52 trks. Off. & Stgo. space for lease. Boro. in siding. lgs. machinery & steel in lifts up to 4 1/2 tons. 1 shell. Btl. Co. Fgr. Type Elev. Frt. Plat. Elev. 3 Pbl. Trg. Mach. 4 Elev. Plat. Trk. 40 Plat. 15.  
MEMBER—A.W.A.; N.J. Mtr. Trk. Assoc.; Whse. Assoc. of N. Y.

**JERSEY CITY, N. J.**

**J. LEO COOKE WAREHOUSE CORP.**

140 BAY ST., JERSEY CITY 2, N. J.

Telephones: (NY) Whitehall 3-5090 (NJ) Journal Square 2-5080 TWX: JC-112  
J. Leo Cooke, President Frank E. Kearney, Vice President—Sales  
Established 1948. Investment over \$200,000.  
FACILITIES—500,000 sq. ft. reinf. conc. and steel. Low loa. ratm. watchman serv. Ft. Id. 250 lbs. Siding Pennsylvania RR. Also Erie RR. 12th & Provost Sts. Jersey City. Local and over-the-road truck service. Shell. plat. Spas. in food and products requiring protection from dampness, dirt, heat or cold. Med. mal. handling. Palletized.  
Eastern Reg.: North Pier Terminal Co., Chicago. Member—A.W.A.—Can. W.A.

**JERSEY CITY, N. J.**

Est. 1940

**Lackawanna Warehouse Company, Inc.**

I. A. Miller, Manager 620 Grove St.  
Tel.—(N.J.) Journal Sq. 2-3340. (N.Y.) Rector 2-9340  
FACILITIES—1,072,883 sq. ft. Reinf. concrete & Steel. Fireproof. Fire & burg.—ADT. Ins. \$0.6. Siding D.L.&W. RR. 52 cars. Shell. Plat. 54 trucks. Ceiling hgt. 8 1/2 ft. Elev. cap. 12,000 lbs.  
SERVICE FEATURES—Pool car dist. Stgo. & off. space for lease. Co. oper. cartage serv. 52 trks. SIT arrangements. 24 frt. plat. elev.; etc.  
MEMBER—A.W.A.; N.J. Motor Truck Assoc.; Whse. Assoc. Port of N.Y.A.

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"TOPS IN NEW JERSEY"

**Federal Storage Warehouses**

155 Washington Street Newark 2, New Jersey  
Mitchell 3-2222

FACILITIES—700,000 square feet, reinforced steel and concrete bldgs. Fully sprinklered fireproof, heated, ADT supervised. Penn. R.R. siding. low insurance rates. Centrally located in Newark, N. J.  
SERVICE FEATURES—General merchandise stored, distributed. Offices and warehouse space. Pool car distribution, large elevators, labeling and shipping. Inside platforms. Modern materials handling and palletized.  
MEMBER—A.T.A.; N.J. Motor Truck Assoc.; N.A.V.L.

**NEWARK, N. J.**

Est. 1919

**Lehigh Warehouse & Transportation Co.**

A. F. Christiano 606 Frelinghuysen Ave.  
Manager Tel.—(N.J.) Bigelow 3-7800  
(N.Y.) Rector 2-3338  
Btl. Co. Fgr. Type Elev. Frt. Plat. Elev. 3 Pbl. Trg. Mach. 4 Elev. Plat. with PRR. Shell. plat. 20 trks. Siding Lehigh Valley, 15 cars. Reinf. siding.  
SERVICE FEATURES—Co. oper. cartage. 52 trks. Boro. in food, liquors, etc. apples. 2 grav. rat. con.; 8 frt. elev.; 120 plat. 15.; 14 head 15.  
MEMBER—A.W.A.; N.J. Motor Trk. Assoc.; Whse. Assoc. N. Y.

**PORT NEWARK, N. J.**

Est. 1948

**Lehigh Warehouse & Transportation Co. Inc.**

Agents for the Port of New York Authority  
Bldg. 5, Foot of Doremus Ave. Tel.—Market 3-7463  
FACILITIES—500,000 sq. ft. Reinf. concrete & steel. Fireproof. Sprinkler sys. watchman ADT supervised. Private RR siding 13 cars PRR, CNJ, L.V. shell. plat. 30 trks. Deep water berth to 30'.  
SERVICE FEATURES—U. S. Customs bonded. 2—25 ton cranes. S.I.T. Pool car dist. Co. oper. cartage serv. 52 trks.  
MEMBER—A.W.A.; N.J. Motor Trk. Ass'n; Whse. Ass'n N.Y.



## AMSTERDAM, N. Y.

Victor 3-2110

### SLEZAK BROS. WAREHOUSE, INC.

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150,000 sq. ft. of dry storage space, sprinklered throughout. Railroad and truck loading • 1,000,000 gallons of liquid storage space.

## AMSTERDAM, N. Y.

TELEPHONE—VICTOR 2-4670

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Member of A.W.A.

### EMPIRE STATE WAREHOUSES COMPANY

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19 GIANT FLOORS 200,000 FT. OF SPACE  
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COOLER AND TEMPERATURE CONTROL SPACE AVAILABLE



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MOVING OR STORING

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3 WAREHOUSES  
BUFFALO, N. Y.**



## BUFFALO, N. Y.

Telephone: Victoria 2411

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New York and Chicago

American Warehousemen's Assn., Chicago

General Offices: 261 GREAT ARROW AVE., Buffalo 7



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Ri. 1520—1521

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100,000 Square Feet All Main Floor, No Load Limit, N.Y.C. 12 Car Siding, Ample Truck Docks, Main Buildings Fully Sprinklered, A.D.T. Fire and Burglar Protection, 15 to 20 ft. Ceiling, Fully Fenced Six Acres Yard Space, Low Insurance Rates, Mechanized Handling, Careful and Sincere Supervision. Can Accommodate Small or Large Accounts.

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For economical warehousing and shipping. Modern building and equipment. Storage-in-transit privileges; low insurance rates. Direct track-connection with Penna. R. R., and N. Y. Central and switching arrangements with all lines into Buffalo. Capacity 20 cars daily. Phone: MADison 8860.



## The Problems...

(Continued from Page 39)

erate capital outlay and do not require enormous tonnage volumes to support their continuation.

By its nature, private transportation is not subject to the many restrictive regulations, either as to rates and services or operating rights and obligations which, since 1887, have been increasingly imposed on transportation for hire.

Very few people go so far as to suggest that private transportation, as such, should be brought under economic regulatory control. There does seem to be, however, a need to confine it to the bona fide transportation of an individual or firm's own person and personnel or the goods incidental to the conduct of the business, in equipment owned or leased for their exclusive use. It certainly should not overlap into the for-hire fields.

The competitive advantages

which may flow from the use of private long-distance transportation are the result of and the purpose of the exercise of ingenuity and business judgment in any business activity. To the extent that such private transportation results in lower consumer costs, in better products, or in better service, it is in the overall public interest. The right of bona fide transportation, of persons or property, is an important right in the American competitive system of business activity. It must not and will not be sacrificed.

### Three Conditions

There are, however, at least three conditions which seem to have fostered an inordinate growth of private long-distance transportation to the disadvantage of the for-hire carriers.

1. Federal excise taxes. During World War II, various Federal excise taxes were levied on the transportation of persons and property by for-hire carriers. These were for the purpose of

raising emergency and defense revenue and, in the case of the passenger tax, to discourage civilian travel at a time when public transportation was overburdened with movements of people and supplies for war. These taxes never were intended as parts of the permanent rate structure yet they have continued to burden the public amounting to 3 per cent on the rate paid for freight moved by for-hire carriers by air, rail, truck, water and freight forwarder, except for coal, which is at the rate of 4 cents per short ton; 4½ per cent on movements by pipeline and 10 per cent on passenger fares.

Taxes on transportation do not apply to private transportation and, hence, offer an incentive for shippers to carry their own personnel and goods using the 10 per cent and 3 per cent savings in various ways. Such stimulation of private transportation works against the public interest if it weakens the public transportation system upon which the nation

(Please Turn to Page 132)





## Cheops paid for stability...

But he didn't get it. His great pyramid at Giza—one of the marvels of the world—was not secure enough to protect his remains. His missing mummy will never turn up at Harborside, but you will find there all manner of merchandise surrounded by every safeguard human ingenuity can devise.

Harborside's value to you begins with the protection its great modernly equipped building affords. Here you have stability in its broadest sense. Financial stability. Man-

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Harborside—world's largest rail-water terminal—is strategically situated opposite Cortlandt Street, Manhattan. Write today for folder telling of the many advantages of using Harborside as your year-in and year-out distributional headquarters.

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- Storage-in-transit privileges
- Free and bonded storage
- Restaurant, stores (a city within a city)
- Protection, police and fire department

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Fireproof Buildings  
Low insurance rate

N.Y.C. Siding  
Branch office facilities



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Est. 1861

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SERVICE FEATURES—Assembling, packaging, bottling. Stgo. space for lease. Bldg. Hqy.: Fork Lk. Tr. Pkts. Specializing in food products, electrical appliances, paper products, non-hazardous chemicals, etc.

MEMBER—A.W.A., Elmira C of C, C of C of Horseheads.

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Affiliated with North American Van Lines  
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Every Modern Warehousing Service  
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PRIVATE RAIL SIDINGS

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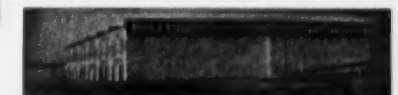


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Complete Modern Facilities For Efficient And Economical Warehousing And Distribution

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Complete service for  
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Private Siding NYC and Big Four 14 Car Capacity  
Pool Car Distribution A.D.T. Service  
Centrally Located Modern Facilities  
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Dayton, Ohio

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- Modern handling
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- Pool car distribution
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facing Page 55 to check your selections

and Firms are Arranged Alphabetically

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INC. 1906

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LANCASTER, PA.

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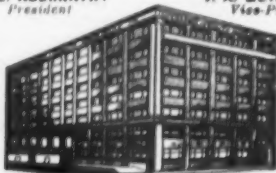
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POOL CAR DISTRIBUTION MERCHANDISE AND HOUSEHOLD GOODS STORAGE



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**JOHNSON**  
STORAGE & VAN CO.  
SINCE 1908  
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Sprinkler, Waterflow, and Fire Alarm Service  
Watchmen, U. S. Customs Bonded, Office Space  
Represented in all principal cities by  
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Established 1914



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WAREHOUSING • DISTRIBUTION • TRUCKING

Represented By  
DISTRIBUTION SERVICE, INC.  
New York—Chicago—San Francisco

## The Problems...

(Continued from Page 120)

must rely for adequate and economic services in peace and war.

2. Merchandising by motor truck. Recent developments, characterized by the ICC as "buy and sell" activities by private motor carriers enable those who wish to resort to such a subterfuge to operate beyond their proper range by engaging in unauthorized for-hire transportation over long distances. Generally, the purpose is to obtain back-haul traffic on return trips for private vehicles.

For example, a private truck operator may run a truck in one direction with his own products and then buy a load of oranges, or some other exempt agricultural or fishery product, for the return trip. In reality this is not so much a problem of private transportation as it is of exempting the transport of agricultural and certain other products from economic regulation by the ICC; and

should be dealt with in any consideration of the propriety and desirability of continuing such exemption.

Although in some instances purchases and sales may represent actual merchandising ventures by the true owners of the goods transported, in other cases arrangements are made with consignors of merchandise under the "buy and sell" device in order that the consignor may obtain transportation at reduced cost. This "sale" price generally is the cost of the merchandise or commodities at origin plus an amount somewhat under the transportation charge of for-hire carriers.

These practices are a growing menace to sound public transportation and are injurious to the broad interests of shippers as well as the for-hire carriers. Necessary steps must be taken to confine private operators within proper bounds as movers of their own freight, in accordance with the "primary business test."

3. Trip leasing. Private truck

operators, in many cases, gain an advantage by engaging in the practice of trip-leasing their vehicles to authorized motor carriers or others for return hauls. Often, the lease arrangement is nothing more than a subterfuge designed to obtain a load in the reverse direction by hiring out equipment and manpower to a shipper or to a certificated motor carrier.

The results are a disruption of the for-hire carrier rate structure and the impairment of the essential system of transportation by common carriers. Efforts by the ICC, after long investigation, to curb these unsound practices by imposing rules and regulations to govern leasing of motor vehicles have not yet been made effective.

These situations can be corrected by administrative action of the government or through the regulatory bodies under existing legislation, without violating the basic right of private transportation. •

(Resume Reading on Page 40)

DISTRIBUTION AGE



and Firms are Arranged Alphabetically

GREEN BAY, WIS.

ESTABLISHED 1903

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40 Car Track Capacity  
Modern Handling Equipment  
Private Siding on CANW  
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Complete local and over-the-road truck services with 70 units of all types of equipment, including low-bed trailers, winches and cranes.

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PERSONALIZED ON-THE-SPOT WAREHOUSE SERVICE ASSURES FRIENDLY CUSTOMER CONTACTS & GOOD PUBLIC RELATIONS! Select your Warehouseman as you would your Representative

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LOW INSURANCE RATES  
POOL CAR DISTRIBUTION

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